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CHANGING LANDSCAPE OF MANAGEMENT ACCOUNTING

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THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

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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.

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."

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."

IDEALS THE INSTITUTE STANDS FOR

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

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

Headquarters
CMA Bhawan, 12 Sudder Street
Kolkata - 700016

Institute Motto

असतोमा सद्गमय
तमसोमा ज्योतिर् गमय
मृत्योर्मामृतं गमय
ॐ शान्ति शान्ति शान्तिः

From ignorance, lead me to truth
From darkness, lead me to light
From death, lead me to immortality
Peace, Peace, Peace

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We have expanded our Readership from **1** to **94** Countries

Afghanistan, Algeria, Argentina, Australia, Azerbaijan, Bahrain, Bangladesh, Belgium, Benin, Botswana, Brazil, British Indian Ocean Territory, Bulgaria, Cambodia, Cameroon, Canada, Chile, China, Colombia, Croatia, Czech Republic, Djibouti, Egypt, France, Gambia, Germany, Ghana, Great Britain, Greece, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Lebanon, Liberia, Lithuania, Malawi, Malaysia, Mauritius, Mexico, Morocco, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Nigeria, Oman, Pakistan, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Rwanda, Saudi Arabia, Serbia, Seychelles, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Suriname, Sweden, Switzerland, Syria, Taiwan, Tanzania, Thailand, Turkey, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States of America, Vietnam, Zaire, Zimbabwe.

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From the Editor's Desk

Changing Landscape of Management Accounting

There has been an extensive debate in recent years over the extent to which management accounting is changing. It has also been argued that the environment in which management accounting is practiced has changed significantly - with advances in information technology, more competitive markets, diverse organizational structures and newer management practices. Different people ascribe different factors determining management accounting change, but the most frequently quoted were the competitive economic situation of the 1990s and particularly global competition.

Shifting Role of Profession in the era of Digital Disruption: Various methods of management accounting are in common use and have become even more important in the dynamic world we live in. Technology has boosted the financial performance of businesses through the hassle-free and less frantic task of recording transactions. As manual and error-prone tasks are eliminated, emerging technologies are taking the charge of spearheading accounting practices. Management Accountants constitute an important part of an organization's decision-making process. They can ensure that businesses make well-informed decisions. Financial analysis of management information is provided by management accountants. This is accomplished through preparing, developing, and analysing financial data towards enabling apt strategic and operational decisions to be made by the organization.

From mitigating unprecedented business disruptors to adapting to new operational paradigms, professionals in all industries find themselves dealing with major challenges mostly driven by emerging technologies. Accounting is no exception. The profession has moved far beyond mere book-keeping and payroll, and like its partner procurement, it's taking an increasingly strategic role for forward-thinking businesses. Technologies such as cloud-based data management, process automation and advanced analytics are actually empowering accountants in new and better ways.

Organizations that understand the potential and importance of these technologies — and invest in the tools and training required to help their accountants take full advantage — will be ahead of the curve. Tomorrow's accountants will play a more creative and strategic role in their companies. As a result, their businesses will not only enjoy more efficient workflows and reap more useful insights from their accounting processes, but help strengthen their own resiliency, agility and competitive edge.

Other significant function of the Management Accountants: Further, Management Accountants are essential in integrating sustainability and CSR initiatives into a company's strategy. They also stay equipped with changing tax laws and advise senior management on potential impacts on the business and tax-saving opportunities. Ensuring a company's liquidity and efficient cash flow management is another critical responsibility of management accountants. They monitor cash inflows and outflows, manage working capital requirements, and optimize cash management strategies to ensure sufficient funds are available for the smooth operation of the business.

This issue features a number articles on the cover

story *"Changing Landscape of Management Accounting"* written by distinguished experts.

The articles on the role of management accounting in enabling sustainability in business aims to comprehensively examine the role of management accounting in enabling sustainability in business. Sustainability has emerged as a critical consideration for organizations in the face of environmental challenges and stakeholder expectations. Management accounting, with its focus on providing relevant financial and non-financial information, can significantly contribute to integrating sustainability into decision-making processes.

The article on blockchain technology attempts to explore opinion of professionals and academicians regarding necessary skills to work in blockchain technology environment and what changes would occur in auditors' functions.

The article on Fintech says innovations in this arena helps to create not only a more equitable world but also create a sustainable world by helping create sustainable products. Moreover, with technology like using AI for analysis and decision making, it is important to ensure that the decisions still remain ethical.

The article regarding technological innovations for better strategic management accounting outcomes is primarily aimed at exploring the recent technological breakthroughs that promote data analysis undertaken by the Management Accountants which are indispensable for sustainable performance.

We look forward to constructive feedback from our readers on the articles and suggestions for the overall development of the Journal. Please send your emails at *editor@icmai.in.*

We thank all the contributors to this important issue and hope our readers would find the articles interesting and useful.

THE MANAGEMENT ACCOUNTANT

PAPERS INVITED

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

Month		Theme		Subtopics
July 2023	Theme	Goods and Services Tax (GST): A significant step towards making India Economically Competitive	Subtopics	⦿ Important Advance Rulings and their Implications ⦿ Input Tax Credit under GST ⦿ Reverse Charge Mechanism under GST ⦿ Impact of Union Budget 2023 on GST Law ⦿ GST on real estate and textile industry ⦿ Capacity Based Taxation and Special Composition Scheme ⦿ GST: A game-changer for MSMEs ⦿ Emerging Litigation Areas in GST Including Important Landmark Judgments ⦿ GST @ 6: Its journey so far
August 2023	Theme	Issues and Challenges of the Cooperative Sector in India	Subtopics	⦿ Food Security through Agricultural Cooperatives ⦿ "Sahakar Se Samriddhi": An initiative for strengthening governance in Cooperative sector ⦿ Role of Cooperatives towards Women Empowerment ⦿ India aiming to become a hub of dairy innovations and solutions ⦿ Multi-State Cooperative Societies (Amendment) Bill, 2022: On the way to improve Ease of Doing Business ⦿ KRIBHCO's bio-ethanol project: Powering Amrit Kaal ⦿ Primary Agricultural Credit Societies (PACS) in every Panchayat to strengthen cooperative movement ⦿ National Cooperative Database: A Digital push to revitalize the Cooperatives ⦿ Tax incentive to boost up cooperative sector ⦿ Conducting Training and Awareness Programmes: Role of the Institute
September 2023	Theme	Indian Defence Sector: Marching towards Aatmanirbharta	Subtopics	⦿ Transformative reforms towards Aatmanirbharta ⦿ Challenges and Opportunities in the areas of Defence Finance and Economics ⦿ Innovations in Defence R & D to align with International Standards ⦿ Human Resource Management in Defence ⦿ Investments in Defence Start-ups & MSMEs ⦿ Emerging role of MSME in Aerospace manufacturing ⦿ Unmanned and Autonomous Technologies for Air Dominance ⦿ Defence Accounting & Auditing ⦿ India's defence readiness in a Cost Conscious way: Role of CMAs ⦿ Pricing Strategy for Defence Exports
October 2023	Theme	Renewable Energy: India emerge as a Global Leader in Energy Transition	Subtopics	⦿ Renewable Energy for Sustainable Development in India ⦿ Innovative Energy Startups revolutionizing the Renewable Energy sector ⦿ Green Hydrogen for a better Tomorrow ⦿ Energy Storage to empower future ⦿ Financing a green transition and ensuring India achieve its target Net Zero ⦿ Green Energy: Computing and Security ⦿ Implementing Integrated Energy Policy: The Way Forward ⦿ Role of Smart Grid, IoT, and Big Data in Renewable Energy ⦿ E-Mobility: A greener and safer Future ⦿ India's G20 Presidency: Collective Action and Energy Transition

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 anywhere else. Please send your articles by e-mail to editor@icmai.in latest by the 1st week of the previous month.

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PRESIDENT'S COMMUNIQUÉ

CMA Vijender Sharma
President
The Institute of Cost Accountants of India

"Arise, Awake and Stop not until the goal is reached."
-- Swami Vivekananda

My Dear Professional Colleagues,

It gives me immense pleasure to inform you that the Institute has successfully organized the 10th National Students' Convocation – 2023 on the occasion of its 64th Foundation Day on 28th May, 2023 at Science City Auditorium, Kolkata. Every year when Foundation Day is celebrated, it is time to reflect on the beginnings that took place and how since the inception changes have come paving the way for success over the years. It was the day to remember, cherish, celebrate and recognize the illustrious years of contribution made by the Institute and its members in the nation building process. I had the pleasure of addressing the members & students of the Institute on this auspicious occasion. CMA Biswarup Basu, Former President & Council Member, CMA H. Padmanabhan, Former Vice President & Council Member, CMA Harijiban Banerjee, Former President, CMA Amal Kumar Das, Former President, CMA B M Sharma, Former President also delivered their inspirational and motivational speech during the inaugural session which was followed by cultural events.

His Excellency Dr. C.V. Ananda Bose, Hon'ble Governor of the State of West Bengal graced the convocation as the Chief Guest and released the Convocation Souvenir. While addressing the vast gathering, the Chief Guest expressed his happiness to award the professional students and also appreciated the Institute's role in pursuing its vision of cost competitiveness, cost management, efficient use of resources and structured approach to cost accounting as the key drivers of the profession. Around 800 students along with their guardians were present in the program. The students of June 2022 and December 2022 term were felicitated with prizes, rank certificates, and medals at this National Students' Convocation. The convocation witnessed an august presence of eminent personalities including academicians, corporate, professionals and huge numbers of students cutting across the length and breadth of the country.

Presentation at NCVET

The Institute submitted an application to the National Council for Vocational Education and Training (NCVET) for the recognition of the Institute as an Awarding Body and Assessment Agency. In furtherance, I along with CMA B.B.Goyal, Former Addl. Chief Adviser (Cost), Ministry of Finance & Advisor ICMAIMARF, and other senior officials of the Institute made a detailed presentation about the Institute on 19th May, 2023 before the Sub- Committee of NCVET headed by its Chairman- Dr. Nirmaljeet Singh Kalsi, IAS (Retd), for final review/observation. I would like to share with you that the Sub-Committee was very pleased with our presentation and I am hopeful that I'll share some good news in this regard in the next communiqué.

MOU with ASSOCHAM

I am happy to inform you that the Institute has signed a MoU with ASSOCHAM on 24th May, 2023 to promote advocacy with focus on Prevention of Money Laundering alongside various subjects for building capacity of stakeholders. The MoU was signed by me on behalf of the Institute and Mr. D. S Rajora, Assistant Secretary General, ASSOCHAM was the signatory on behalf of ASSOCHAM. The MoU was signed in the august presence of CMA P. Raju Iyer, Immediate Past President - ICMAI, Mr. Santosh Parashar, Additional Director and Head of Corporate, Legal and Regulatory Affairs - ASSOCHAM and other officials from ICMAI and ASSOCHAM. The strategic alliance between the two organisations aims to promote professional and organisational development in the field of Prevention of Money laundering and allied cross border financial crimes. As a part the initiative, the focus is to jointly identify and execute capacity building and awareness related developmental initiatives and award diploma and certificate programme that benefit stakeholders. The exercise would largely contribute towards good governance.

MOU with IGNOU

The Institute has signed an MoU with IGNOU for jointly developing an Open and Distance Learning (ODL) programme titled "Diploma in Agricultural Cost Management", 1st course of its kind in India. The programme aims to create awareness and human resource in the area of agricultural cost management by imparting knowledge, skills, and entrepreneurial capabilities of the farming communities for efficient farm cost management. It will be beneficial for progressive farmers, Urban / rural youth, small and medium entrepreneurs, extension workers, NGO functionaries/ trainers, members of cooperative societies, self-help groups, etc. The MoU was signed by me and Dr. Alok Chaube, Registrar (Administration), IGNOU in the presence of CMA P Raju Iyer, Immediate Past President - ICMAI, CMA Biswarup Basu, Former President - ICMAI, CMA Kaushik Banerjee, Secretary -ICMAI, Prof. Sumitra Kukreti, Pro- Vice Chancellor - IGNOU, and other officials from ICMAI and ASSOCHAM.

I now present a brief summary of the activities of various Departments/Committees/ Boards of the Institute, in addition to those detailed above:

BANKING, FINANCIAL SERVICES AND INSURANCE BOARD

The Banking, Financial Services & Insurance Board (BFSIB) of the Institute and the BFSI Department conducted the following activities during the month of May 2023:

- **MOU with NSE Academy Limited**

The Institute of Cost Accountants of India witnessed an opportune moment on 18th May, 2023 wherein one MoU was signed with NSE Academy Limited for the purpose of conducting investment management courses, programmes and events for the benefit of the members and students of the Institute. I hope that the upcoming course in the area of Investment Management will be beneficial to all the stakeholders in all walks of their lives.

- **Webinar**

Webinar on "Role of CMAs in Expected Credit Loss Framework for Provisioning of Banks (Series-III)" was conducted on 19th May, 2023. The Chief Guest and Speaker of the webinar was CMA (Dr.) P Siva Rama Prasad. This webinar concluded the three-part series for the propagation of knowledge among members of the Institute and to increase the awareness of the numerous professional opportunities available.

- **Certificate Courses on Banking**

The 8th Batch of the Certificate Course on Credit Management of Banks is currently in progress. The 6th Batch of the Certificate Course on Treasury and International Banking has been successfully concluded on 5th May, 2023 and the 8th Batch of the Certificate Course on Concurrent Audit of Banks has been successfully concluded on 20th May, 2023.

I call upon all members and students to take the opportunity for capacity building and knowledge enhancement by enrolling in all BFSIB courses. The link given for enrolment form is as follows:

https://docs.google.com/forms/d/e/1FAIpQLSdx18Bm27SjBv83hUDP64j3jLmDuSIeVmGn2l2K3Epdg9P3Bw/viewform?vc=0&c=0&w=1&flr=0

CONTINUING EDUCATION PROGRAMME COMMITTEE

I am delighted to inform you that after successful completion of eight batches of online mandatory capacity building training (e-MCBT), the Continuing Education Programme Department has started registrations for the 9th batch of e-MCBT.

I urge the practitioners to enroll for 9th batch of e-MCBT to avail this opportunity to complete their MCBT for practicing members who have taken Certificate of Practice (COP) on and after 1st February, 2019 and have not undergone the MCBT.

During the month, six webinars and programmes were organised by the different committees of the Institute on the topics of professional relevance and importance like IFRS 1 - First-time Adoption of International Financial Reporting Standards, Ind AS 24 - Related Party Disclosures, Ind AS 7 - Statement of Cash Flows and so on. I am sure our members are immensely benefited with the deliberations in the sessions.

DIRECTORATE OF CAT

- **CAT Course Part - I Examination – July 2023 term**

CAT Directorate issued Notification for the CAT Course Part - I Examination – July 2023 term. The examination will be held on 9th July, 2023 through online mode wherein candidates would not be required to go out and can appear using mobile/laptop/desktop/tab from their home only. I urge students to be careful while filling the application forms, and to follow the guidelines issued by the CAT Directorate in the said notification. I wish students all the best for their exam.

- **WEBINTs**

The Committee for Accounting Technicians (CAT) in association with Professional Development Committee, International Affairs Committee, Public Relations Committee and AAT Board has started a series of WEBINTs on "International Financial Reporting Standards (IFRS)" from 26th May, 2023. The WEBINTs on this topic will be held on each Friday from 6 PM onwards. I urge Members and Students of CMA and CAT course to join this series in good numbers and enhance their knowledge on IFRS. The sessions will be taken by resource person CMA (Dr.)

Gopal Krishna Raju who's been associated with us in virtual learning process through the WEBINT series on IND AS being conducted on Sundays.

I would like to thank my Council colleagues CMA Biswarup Basu, former President & CMA H Padmanabhan, Chairman (CAT) for their continuous support and guidance in successfully organising these WEBINTs.

- **New ROCC**

The CAT Directorate sanctioned two new ROCCs in the month of May 2023; one in the northern region viz. Trishala Educational Foundation, N-250 at Saharanpur(Uttar Pradesh) and one in Western region viz. K.R.T. Arts, B.H. Commerce & A.M. Science College (KTHM College), W-188 at Nashik(Maharashtra). I hope these ROCCs would cater to the needs of CAT course aspirants from Saharanpur, Nashik and the other cities and towns adjoining them.

DIRECTORATE OF STUDIES

- **Distribution of Study Material for admissions under the CMA Syllabus 2022 through the Central Stores of the Institute:**

Distribution of Study Materials under the CMA Syllabus 2022 has further been streamlined through the Central Stores department which is headed by a senior officer. The single window email studymaterials@icmai.in may be utilised by students for any issues or any clarification required in respect of receipt of study materials.

- **Model Test Paper (Syllabus 2016) and Model Question Paper (Syllabus 2022):**

The Institute has uploaded Model Test Papers (MTP) and Model Question Papers (MQP) along with answers for the June 2023 examination term and I am sure that students will be immensely benefited by going through them.

MEMBERS IN INDUSTRY & PLACEMENT COMMITTEE

I am very happy to share that more than 40 renowned corporates visited in the 1st Phase of CMA Campus Placement Drive held during April - May 2023 consecutively at Delhi, Kolkata, Mumbai and Chennai viz. Accenture, ABB, Alliant Group, Bharat Electronics, Capgemini, Capita India, CEAT Ltd., Ernst & Young, Ford Motor, Global FPO, Godrej Agrovet, GST Suvidha, Holcim Global, IBM, Indian Oil Corporation, Indian Renewable Energy Development Agency, ITC Agri Business Division, ITC Limited - Hotels, ITC Limited - Tobacco, ITC Limited TM & D, JLL, KD Practice, KRIBHCO, Larsen & Toubro, Lennox India Technology Center, Mecon, Minda Corporation, Mindsprint Digital, N A Shah Associates LLP., National Agriculture Cooperative Marketing Federation of India, Nestle, Orane Consulting, Rashmi Group, Reliance JIO, RSM Astute Consulting, Sakata Inx, TVS Motor, Vedanta, Viraj Profiles and others.

Around 300 newly qualified CMAs of December 2022 Term are placed during these placement drives with a highest CTC of Rs.22 lac p.a. The 2nd phase of campus placement drives has already been started. Many new companies are registering themselves for the next phases of campus placement drives. I wish every success of qualified CMAs for their future professional endeavours.

PROFESSIONAL DEVELOPMENT COMMITTEE

I am pleased to inform you that on Institute's request, Satyajit Ray Film & Television Institute, Kolkata considered Cost Accountants Firms for Internal Audit, Himachal Pradesh Power Corporation Limited considered for Preparation of Comprehensive Accounting Manual and National Health Mission (NHM), Kollam considered for Concurrent Audit.

PD Directorate submitted representations to various organizations for inclusion of cost accountants for providing professional services.

Please visit the PD Portal for Tenders/EOIs during the month of May 2023 where services of the Cost Accountants are required in Airports Authority of India (AAI) Leh Airport., Municipal Corporation, Jamshedpur, Jaipur Vidyut Vitran Nigam Limited, Dhubri Medical College & Hospital, Airports Authority of India (AAI) Deoghar Airport, West Bengal State AIDS Prevention & Control Society, The Braithwaite Burn & Jessop Construction Company Limited, Canara Bank, Rajasthan State Co-operative Bank, Nagar Panchayat, Seraikella, National Textile Corporation Limited, Gujarat Health Protection Society, Jharkhand Rural Health Mission Society, Sahibganj Jharkhand, K.K. Handiqui State Open University, Tea Board of India Kolkata West Bengal, Satyajit Ray Film & Television Institute, Jugsalai Nagar Parishad, Jamshedpur, West Bengal State Electricity Transmission Co. Ltd. (WBSETCL), Himachal Pradesh Power Corporation Limited, The Commissioner, CGST (Audit) Commissionerate, Ludhiana, Munitions India Limited, NLC Tamilnadu Power Limited, Mazagon Dock Shipbuilders Limited, Punjab National Bank, Zonal Office, Hyderabad, Security Printing And Minting Corporation of India Limited, The West Bengal Forest and Biodiversity Conservation Society, National Health Mission (NHM), Kollam, Indian Banks' Association, Southern Power Distribution Company Of Telangana, The Small Industries Development Bank of India (SIDBI), Bokaro Power Supply Company (P), Canara Bank Circle Office Vijayawada, Canara Bank Circle Office Mumbai, Canara Bank Circle Office Bengaluru, Canara Bank Circle Office Bhopal, Canara Bank Circle Office Guwahati, etc.,

Professional Development Committee in association with PHD Chamber of Commerce and Industry organised National Conference on "GST-Ease of Business and Challenges" on 24th May, 2023.

TAX RESEARCH DEPARTMENT

The Tax Research Department has always been living up to the expectations of the Students, members, and learners and I am happy to note that they strive to provide the best of the knowledge and keep the learners updated with the changes in the taxation environment.

Keeping up with this endeavour, the department, in total, conducts seven courses in Taxation – both in Direct and Indirect Tax. The courses include: CCGST: Certificate Course in GST, ACCGST: Advanced Certificate Course in GST, ACGAAP: Advanced Course in GST Audit & Assessment Procedure, CCTDS: Certificate Course in TDS, CCFOF: Certificate Course in Filing of Returns, ACIAA: Advanced Course in Income Tax Appeals & Assessment and CCIT: Certificate Course in International Trade. The participants are given ample scope to clear their doubts during these interactive sessions. Overall, these online learning platforms have been quite an enriching experience for both beginners and advanced-level professionals.

Apart from this, the GST Course for College and University students and Crash Course on Income Tax Overview are undertaken for budding professionals on both online and offline mode. Such courses are conducted for colleges and universities across India. In the month of May, the Examination of Certificate Course on GST for College and University were held on 8th May, 2023 for Sandip University, Nashik. Certificate distribution for Certificate Course on GST for Colleges of Srinagar was held on 10th May 2023, Certificate distribution for Crash Course in Income Tax Overview, S A College of Arts and Science, Chennai held on 8th May 2023 and Certificate distribution for Certificate Course on GST for College and University, ST Ann's College of Women, Hyderabad was held on 6th May 2023.

The department is working on developing handbooks on different topics of both Direct and Indirect Tax which are expected to be released during next few months.

INSOLVENCY PROFESSIONAL AGENCY (IPA) OF THE INSTITUTE

Insolvency Professional Agency of Institute of Cost Accountants of India, in its endeavour to promote professional development and sharpen the skills of the professionals, has constantly been conducting various professional & orientation programs across the country and publishing various publications and books for the benefit of stakeholders at large. Towards that, IPA ICAI has undertaken several initiatives, as enumerated below, during the month of May 2023.

IPA of ICAI jointly with the Institute of Cost Accountants of India organized "IP Conclave (IBC from Stakeholders Perspective)" on 6th May 2023 which received an overwhelming response from participants who got benefitted from the knowledge sharing. Hon'ble Justice Ashok Bhushan, Chairperson, NCLAT was the Chief Guest of the Conclave.

To enhance the knowledge about the Treatment of Contingent Liabilities under IBC 2016 an online Workshop was conducted on 12th May 2023, covering topics such as Undecided Claims and their Valuation under IBC, Verification & Rejection, Disputed claims & Contingent claims etc. A two days online Learning Session on the Interface of different Laws with IBC, 2016 organised on 19th - 20th May 2023 covering topics such as Interface of Tax Laws with IBC, Interface of Foreign Exchange Laws with IBC, Interface of Security Laws with IBC, etc. A Workshop on Committee of Creditors: An Institution of Public Faith was conducted on 26th May 2023, covering Constitution of Committee of Creditors, Powers of Committee of Creditors, Preparing Agenda and Minutes of COC, Practical Challenges faced by IPs.

In its endeavour to promote the profession, knowledge sharing and sensitisation of the environment, IPA ICAI published Au-Courant (Daily Newsletter), a weekly IBC Dossier, and a monthly e- Journal which are hosted on its website.

ICMAI REGISTERED VALUERS ORGANISATION (RVO)

I am pleased to inform that ICMAI RVO has successfully organized two "50 Hrs training programs" for Securities or Financial Assets and seven "Professional Development Programs" during the month. ICMAI RVO has published a book on Case Studies for valuation exam conducted by IBBI.

ICMAI SOCIAL AUDITORS ORGANISATION (SAO)

I am happy to inform that ICMAI Social Auditors Organization has empaneled over 100 members. The company conducted two Preparatory courses during the month for the Social Auditors exam conducted by National Institute of Securities Market (NISM). The company organized 8 special lectures during the month on various aspects of CSR / ESG which were delivered by experts from the social and development sector. The company is associated with Social Auditors Network (SAN INDIA) which is the India chapter of Social Audit Network, UK.

I wish prosperity and happiness to members, students and their families and pray for the success in all of their endeavours.

With warm regards,

CMA Vijender Sharma
June 04, 2023

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Azadi Ka Amrit Mahotsav

G20

CMA

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Capita	3
CEAT	3
EY	2
Ford	12
Global FPO	4
Godrej Agrovet	1
GST Suvidha	4
Holcim	10
IBM	2
IndianOil	16
IREDA	6
ITC Agri Business Division	5
ITC's Hotel Group	10
ITC Tobacco	5
ITC TM & D	4
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KD Practice	3
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Larsen & Toubro	24
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ASSESSING THE EFFECTIVENESS OF MANAGEMENT ACCOUNTING IN PROMOTING SUSTAINABILITY IN BUSINESSES

Abstract

This research article aims to assess the effectiveness of management accounting in promoting sustainability in businesses. Sustainability has become an important issue for businesses and management accounting has the potential to play a crucial role in promoting sustainability. This article reviews the literature on the relationship between management accounting and sustainability and explores how management accounting can be used to promote sustainable practices in businesses. The article discusses the challenges faced by businesses in implementing sustainability practices and how management accounting can help to overcome these challenges. The research methodology used in this study involves a qualitative analysis of previous studies and empirical research. The findings of this study reveal that management accounting can effectively promote sustainability in businesses by providing information on the environmental, social, and economic impacts of business practices. The article concludes by suggesting that businesses should adopt management accounting practices that integrate sustainability into decision-making processes.

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INTRODUCTION

This research article aims to assess the effectiveness of management accounting in promoting sustainability in businesses. Sustainability is a concept that encompasses economic, environmental and social dimensions of organizational performance and value creation. Management accounting is a practice that provides financial and non-financial information for managers' planning, control and decision-making processes. The article will explore how management accounting can help businesses to integrate sustainability issues into their strategies, operations and reporting, and what are the challenges and opportunities for management accounting professionals in this context. The article will also review various management accounting techniques that can be used to measure and report sustainability performance, such as full-cost accounting, sustainability assessment model and material flow cost accounting. The article will contribute to the literature on management accounting and sustainability by providing a comprehensive overview of the current state of knowledge and practice, as well as identifying the gaps and directions for future research.

ROLE OF MANAGEMENT ACCOUNTING IN PROMOTING SUSTAINABILITY

Management accounting is a crucial function in every business as it provides relevant information to decision-makers for planning, controlling and decision-making processes. Sustainability is a growing concern globally, as businesses strive to achieve economic, social, and environmental goals simultaneously.

Management accounting is a vital function that provides information for managers to plan, control and make decisions in an organization. However, in the context of sustainability, management accounting needs to go beyond the traditional focus on financial performance and incorporate environmental and social aspects as well. Sustainability accounting is an emerging field that aims to measure and report the impacts of an organization's activities on the triple bottom line - people, planet and profit. By doing so, sustainability accounting can help managers to identify opportunities and risks, improve resource efficiency, enhance stakeholder relationships and create value for the organization and society.

Source:planet-lean.com

Some of the management accounting practices that can support sustainability include the following :

- **Full-cost accounting:** This is a method that accounts for all the costs and benefits associated with an activity or a product, including the environmental and social externalities that are usually ignored or under-estimated in conventional accounting. Full-cost accounting can help managers to evaluate the true profitability and sustainability of their decisions and actions.
- **Sustainability assessment model:** This is a framework that integrates financial, environmental and social indicators into a balanced scorecard approach. The sustainability assessment model can help the managers to monitor and improve their performance across the four dimensions of sustainability: economic, environmental, social and governance.
- **Material flow cost accounting**: This is a technique that tracks the physical flows and costs of materials and energy throughout an organization's processes. Material flow cost accounting can help managers to identify and reduce waste, emissions and resource consumption, as well as to optimize their production efficiency and quality.

These are some examples of how management accounting can play a role in promoting sustainability in organizations. However, there are also challenges and limitations that need to be addressed, such as lack of standardized methods and metrics, complexity and uncertainty of sustainability issues, trade-offs and conflicts among different stakeholders and objectives, and the need for continuous learning and innovation. Therefore, management accountants need to develop new skills and competencies, such as systems thinking, ethical awareness, stakeholder engagement and communication, in order to cope with the changing demands and expectations of sustainability.

CHALLENGES AND LIMITATIONS

Management accounting is a branch of accounting that provides information and analysis for decision-making and planning within an organization. However, management accounting faces some challenges and limitations when it comes to promoting sustainability, which is the ability to meet the needs of the present without compromising the future. Some of these challenges and limitations are:

1. Lack of standardized and consistent frameworks and indicators for measuring and reporting sustainability performance.
2. Difficulty in incorporating environmental and social costs and benefits into management accounting systems and processes.
3. Resistance from managers and stakeholders who may have different views and interests on sustainability issues and goals.
4. Lack of adequate skills and knowledge among management accountants to deal with sustainability issues and challenges.
5. Lack of integration and alignment between management accounting and other functions and departments within an organization.

These challenges and limitations hinder the role of management accounting in promoting sustainability and require further research and development to overcome them.

CONCLUSION AND FUTURE DIRECTIONS

This research study has examined the role of management accounting in promoting sustainability in businesses. Following are the main findings:

- Management accounting can help businesses measure and report their environmental, social and economic impacts, as well as align their strategies and practices with sustainability goals.
- Management accounting can also facilitate stakeholder engagement, decision making and innovation for sustainability and enhance accountability and transparency.
- However, there are some challenges and barriers that hinder the adoption and implementation of management accounting for sustainability, such as lack of awareness, skills, standards, incentives and support.

Based on these findings, some future directions for research and practice are:

- To explore the factors that influence the adoption and implementation of management accounting for sustainability in different contexts and sectors and how to overcome the challenges and barriers.

Sustainability accounting is an emerging field that aims to measure and report the impacts of an organization's activities on the triple bottom line - people, planet and profit

- To develop and test frameworks, tools and methods that can help businesses integrate sustainability into their management accounting systems and processes and evaluate their performance and impacts.
- To investigate the effects of management accounting for sustainability on business outcomes, such as profitability, competitiveness, reputation and risk management.
- To examine the role of management accounting in supporting the transition to a circular economy, a low-carbon economy and a green economy. MA

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TOMORROW'S ACCOUNTANT: ESSENTIAL SKILLS NEEDED FOR BLOCKCHAIN ACCOUNTING AND IMPACT ON AUDITOR

Abstract

In a continuously changing technology era, it is imperative for the accountants to work on their existing skills and become market and technology ready. Blockchain technology nascent, now being used in the field of accounting and auditing also. This article attempts to explore opinion of professionals and academicians regarding necessary skills to work in blockchain technology environment and what changes would occur in auditors' functions. The respondents agreed that they have to develop their skills regarding consensus mechanism, smart contract, legal provisions, TEA etc. They further agreed that blockchain technology would change the auditors' function from basic accounting and auditing to auditing of smart contracts, reliability of consensus protocol and evaluation of digital assets and liabilities.

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INTRODUCTION

Blockchain accounting refers to the use of blockchain technology in the accounting process. Blockchain is a decentralized and distributed digital ledger that allows the creation of a tamper-proof, secure, and transparent record of transactions. By using blockchain technology, accounting records can be stored securely in a distributed ledger, where each transaction is verified and recorded by multiple nodes on the network. In blockchain accounting, transactions are recorded as blocks and added to the blockchain in a chronological order, creating an unalterable and permanent record of all accounting activities. The technology allows for increased transparency, accuracy and security in the accounting process, as all parties involved can access and verify the data on the blockchain. Overall, blockchain accounting has the potential to revolutionize the accounting industry by providing a more secure, transparent and efficient way of recording and verifying financial transactions.

REVIEW OF LITERATURE

While reviewing prior literature, it was found that not much work has been done using primary data. *Hashem, Mubarak and Abu-Musa* (2023) conducted an empirical study on a sample of Egyptian banks that use blockchain technology during the period from 2017 to 2021 and found that there is a significant relationship between blockchain

Blockchain accounting has the potential to revolutionize the accounting industry

and audit quality in the banking sector. *Chowdhury* (2021) conceptualized the impact of blockchain technology on financial accounting from technical and non-technical perspectives. *Zheng* (2021) studied the necessity and feasibility of the application of blockchain technology in the accounting industry. *Tiron-Tudor et. al* (2021) indicated that implementing BT requires some new modus operandi. While *Pimentel and Boulianne* (2020) made a systematic literature review and found that academics have begun to explore how the accounting profession might change in response to blockchain, this research study is limited primarily to the auditing field.

RESEARCH METHODOLOGY

Objectives

The study has two objectives:

1. To explore the skills needed by future accountants to work with blockchain based accounting.
2. To explore the changes that blockchain technology would bring in auditors' functions.

Hypotheses

1. There is no significant difference among the opinion of respondents for various future skills needed for accountants.
2. Demographic factors have no effect on the opinion of respondents for various future skills needed for accountants.
3. There is no significant difference among the opinion of respondents for various changes that would occur in auditors' functions.
4. Demographic factors have no effect on the opinion of respondents for various changes that would occur in auditors' functions.

Data Collection

Data for this study consists of primary data. A structured questionnaire was prepared in order to obtain the opinion of academicians and accounting professionals regarding skills needed for blockchain accounting. Apart from basic demographic questions like age, gender, education, experience, country etc.,the questionnaire contained some latest skills required to work in the world of changing technology. Respondents were offered with six distinctive skills required by future accountants, to which they had to respond on a five-point Likert Scale ranging from "Strongly Agree" to "Strongly Disagree". They were also asked about changes this technology will bring in the field of auditing.

Sampling

Purposive and judgmental sampling method was used to select respondents for the study. Respondents were chosen either from academics i.e. those who are teaching accounting subjects or from accounting professionals i.e. those who are working in the field of accounting. In all 160 responses could be obtained after discarding incomplete responses.

Results and Discussion

Table 1 summarizes the demographic characteristics of the respondents.

TABLE 1

DEMOGRAPHIC PROFILE OF RESPONDENTS

Age Group	Frequency	Percent	Gender	Frequency	Percent
< 20	3	1.9	Male	124	77.5
20-40	111	69.4	Female	36	22.5
≥40	46	28.7	TOTAL	160	100.0
TOTAL	160	100.0	**Education**	**Frequency**	**Percent**
Work Experience	**Frequency**	**Percent**	Accounting	113	66.9
0-5 years	65	40.6	Research	18	10.7
5-10 years	26	16.3	Computer Science	13	7.7
≥ 10	69	43.1	FinTech	10	5.9
TOTAL	160	100.0	Others	6	3.6
			TOTAL	160	100.0

Source: SPSS Output

Since the study focused on skills needed to work with blockchain technology, the sample was judgmental which is reflected in the demographic characteristics of the respondents. Majority of respondents are male (77.5 per cent), between the age of 20 and 40 years (69.4 per cent). The respondents having less than 5 years of experience were 40.6 per cent ; those with 5-10 years were 16.3 per cent and those having more than 10 years were 43.1 per cent.

The respondents had different educational qualifications. Due to diverse degrees they had, they were clubbed into five groups based on similarity of education – accounting, research, computer science, fintech and others. Majority of the responses were received from those who have obtained degrees in accounting field (66.9 per cent), like post-graduation, ACCA, CA, CS, MBA, ICWA, CPA etc. The respondents from research field were 10.7 per cent and from computer science field were 7.7 per cent . The respondents who had a combination of accounting and computer science have been categorised as fintech and they were 5.9 per cent only.

Figure 1 shows the country-wise distribution of respondents. Maximum responses have been received from Indian accounting professionals and academicians. Responses have also been received from countries like USA, UK, Australia, France, Italy, China, Philippines, Ireland, Finland, Netherlands, Thailand, Vietnam, UAE, Oman, Pakistan, Nigeria, Bahrain, Kuwait, Egypt, Malaysia, Morocco, Zambia, Spain, Sri Lanka, and South Korea etc. The respondents were from 33 countries.

FIGURE 1

COUNTRY-WISE DISTRIBUTION OF RESPONDENTS

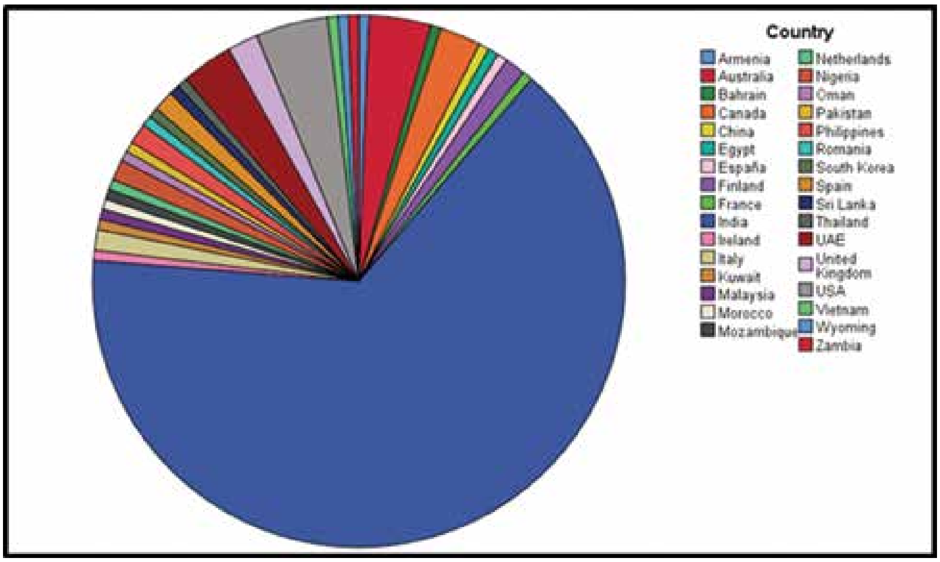

Table 2 presents the descriptive statistics of the responses along with normality test results.Respondents were offered with specific skills related to blockchain based accounting and Table 2 describes the obtained data. It is found that mean for all the skills ranged between 4.17 and 4.34. This shows that all the respondents agreed to the skills offered to them. The value of C V is also very low which shows that there is little variation in responses of respondents. For changes in auditors' function, it was found that there is overall agreement for all the changes as the mean ranged from 1.81 to 2.36. Highest agreement was for "How transactions are recorded and recognised in financial statements" and the least agreement was for "Perform arbitration function to settle disputes". Values of C V were low indicating consistency in responses.

TABLE 2

DESCRIPTIVE STATISTICS AND NORMALITY RESULTS

Required Skills	Mean	Std. Dev.	C. V.	S-W	df	Sig.
Understanding of principles and functions of blockchain technology	1.68	0.749	44.69%	0.772	159	0.00
Keeping oneself updated with emerging technologies	1.66	0.768	46.19%	0.763	159	0.00
Understanding of triple entry accounting system	1.80	0.815	45.28%	0.806	159	0.00
Knowledge about Government regulations regarding blockchain technology	1.71	0.790	46.29%	0.779	159	0.00
Understanding of smart contract	1.84	0.868	47.23%	0.810	159	0.00
Understanding consensus protocol	1.84	0.892	48.58%	0.797	159	0.00

Changes in Auditors' Function	Mean	Std. Dev.	C. V.	S-W	df	Sig.
Auditing smart contracts	1.91	0.930	48.80%	0.813	159	0.00
How transactions are recorded and recognised in financial statements	1.81	0.799	44.28%	0.806	159	0.00
Perform arbitration function to settle disputes	2.36	0.981	41.52%	0.887	159	0.00
Examining how judgemental elements have been decided, such as valuation	1.98	0.760	38.49%	0.825	159	0.00
Examining reliability of consensus protocol for the specific blockchain	1.97	0.850	43.17%	0.821	159	0.00
Evaluation of management's accounting policies for digital assets and liabilities	1.76	0.807	45.94%	0.791	159	0.00

Source: SPSS Output

For the purpose of the type of tests to be used for hypotheses testing, normality test has been performed using Shapiro-Wilk test. Results show that **p** values of for all the skills offered along with all statements related to changes in auditors' functions are less than 0.05. This shows that the data is not normally distributed and hence non-parametric tests are to be used.

Table 3 presents the results of Chi-square test for overall opinion. For skills required, it is found that Chi-Square test statistic was significant for all the skills as the **p** value is less than 0.05. Hence it can be concluded that there is significant difference in the overall opinion of respondents for skills required to work in blockchain technology environment. Majority of respondents are in agreement for all the skills required.

TABLE 3

CHI-SQUARE TEST RESULTS FOR OVERALL OPINION

Required Skills	Chi-Square	P Value
Understanding of the principles and functions of blockchain technology	91.950	.000
Keeping oneself updated with emerging technologies	93.650	.000
Understanding of triple entry accounting system	67.700	.000
Knowledge about Government regulations regarding blockchain technology	82.850	.000
Understanding of smart contract	120.750	.000
Understanding consensus protocol	123.862	.000

Changes in Auditors' Functions	Chi-Square	P Value
Auditing smart contracts	112.313	.000
How transactions are recorded and recognised in financial statements	132.478	.000
Perform arbitration function to settle disputes	70.625	.000
Examining how judgemental elements have been decided, such as valuation	140.063	.000
Examining reliability of consensus protocol for the specific blockchain	127.813	.000
Evaluation of management's accounting policies for digital assets and liabilities	140.875	.000

Source: SPSS Output

Similarly, for changes that would be brought by blockchain technology in auditors' functions, it was found that Chi-Square statistic was significant for all the changes offered to the respondents. **P** values for all the changes are less than 0.00 and thus null hypothesis is rejected for all the changes at 5 per cent level of significance. It can be concluded that respondents' opinion differ significantly for all the changes that would occur in blockchain technology environment.

Thus it can be concluded that majority of the respondents agree with all the skill sets offered to respondents and demographic variables are not significantly impacting the opinion of respondents. Accountants need to understand the basics of blockchain technology, smart contracts, consensus mechanism and triple entry accounting.

Then effect of demographic factors was tested using non-parametric tests. There were four demographic factors, effect of which could be tested – gender, age, education and experience. When Mann-Whitney U test was applied on both the skills and changes on the basis of gender, none of the item was found to have significantly different opinion. Similarly age was also not found to have significant impact of respondents' opinion for skills and changes. Hence gender-wise and age-wise hypothesis results have not been presented. It was concluded that there is no significant difference among the opinion of respondents on the basis of gender and age.

Table 4 displays the results of Kruskal-Wallis H Test for finding out education-wise difference in opinion.

TABLE 4

RESULTS OF KRUSKAL-WALLIS H TEST FOR EDUCATION

Required Skills	Kruskal-Wallis H	P Value
Understanding of the principles and functions of blockchain technology	8.210	.042
Changes in Auditors' Functions	**Kruskal-Wallis H**	**P Value**
Auditing smart contracts	8.604	.035
How transactions are recorded and recognised in financial statements	7.906	.048
Examining how judgemental elements have been decided, such as valuation	7.916	.048
Evaluation of management's accounting policies for digital assets and liabilities	9.339	.025

Source: SPSS Output

The results show that on the basis of education, opinion for required skills was significantly different for "Understanding of Principles and functions of blockchain technology" as the **p** value for this skill was less than 0.00. It proves that there is significant difference among opinion of respondents having different educational qualification, for this statement. Regarding changes in auditors' function, opinion was found significantly different for "Auditing smart contracts", "How transactions are recorded and recognised in financial statements", "Examining how judgemental elements have been decided, such as valuation" and "Evaluation of management's accounting policies for digital assets and liabilities". Hence null hypothesis was rejected for these four changes on the basis of education.

Table 5 presents results of Kruskal-Wallis test on the basis of experience.

TABLE 5:

RESULTS OF KRUSKAL-WALLIS H TEST FOR EXPERIENCE

Required Skills	Kruskal-Wallis H	P Value
Knowledge about Government regulations regarding blockchain technology	8.805	.012

Source: SPSS Output

The opinion was found to be significant only for "Knowledge about Government regulations regarding blockchain technology" and null hypothesis was rejected only for this skill. None of the changes in auditors' function was found to be significantly different on the basis of experience.

CONCLUSION

In this study an opinion survey was conducted among accounting academicians and professionals to find the future skills required and potential changes in auditors' function in a blockchain based accounting environment. It was found that understanding of blockchain technology, smart contracts, consensus mechanism, TEA, related legislations were considered necessary by respondents. MA

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THE ROLE OF MANAGEMENT ACCOUNTING IN ENABLING SUSTAINABILITY IN BUSINESS: A COMPREHENSIVE REVIEW

Abstract

This research article aims to comprehensively examine the role of management accounting in enabling sustainability in business. Sustainability has emerged as a critical consideration for organizations in the face of environmental challenges and stakeholder expectations. Management accounting, with its focus on providing relevant financial and non-financial information, can significantly contribute to integrating sustainability into decision-making processes. This article reviews and synthesizes existing literature, case studies, and empirical evidence to highlight the various ways in which management accounting supports sustainability initiatives. The findings emphasize the importance of performance measurement, cost analysis, investment appraisal, risk management, strategic planning and reporting in enabling sustainable practices. By understanding the role of management accounting in sustainability, organizations can leverage these insights to drive positive environmental, social, and economic outcomes.

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INTRODUCTION

In recent years, the concept of sustainability has gained significant attention in the business world. As the global community recognizes the urgent need to address environmental, social, and economic challenges, organizations are increasingly embracing sustainability as a strategic imperative. Alongside this trend, management accounting has emerged as a vital tool for enabling sustainability in business operations. This comprehensive review aims to explore the role of management accounting in promoting sustainability and its impact on organizational performance. Sustainability, in the context of business, refers to the integration of economic, environmental, and social factors into the organization's strategy and operations. It involves meeting the needs of the present without compromising the ability of future generations to meet their own needs. The growing recognition of environmental and social challenges, such as climate change, resource depletion, social inequality, and stakeholder expectations, has made sustainability a critical consideration for businesses.

ROLE IN ENABLING SUSTAINABILITY

Management accounting plays a crucial role in enabling sustainability in the following ways:

- **Performance Measurement and Reporting:** Management accounting provides tools and techniques to measure and report on the organization's sustainability performance. This includes developing key performance indicators (KPIs) related to environmental, social, and economic aspects, such as energy consumption, waste generation, employee satisfaction, community impact, and product lifecycle analysis. By measuring and reporting on sustainability performance, management accountants provide decision-makers with the information necessary to assess the effectiveness of sustainability initiatives and identify areas for improvement.
- **Costing and Financial Analysis:** Sustainability initiatives often incur additional costs, such as investments in renewable energy, eco-friendly

technologies, or employee training. Management accountants help in accurately estimating and allocating these costs to different products, projects, or business units. Through cost analysis and financial modeling, they can assess the financial viability of sustainability projects, identify cost-saving opportunities, and evaluate the return on investment (ROI) of sustainability initiatives.

- **Decision Support:** Management accountants provide decision support by analyzing the financial and non-financial impacts of different sustainability strategies and initiatives. They help management evaluate the trade-offs between short-term financial performance and long-term sustainability goals. For example, management accountants can conduct scenario analysis to assess the financial implications of adopting renewable energy sources or implementing sustainable supply chain practices. By providing decision-makers with relevant information, management accountants facilitate informed decision-making that integrates sustainability considerations.
- **Risk Management:** Sustainability risks, such as regulatory compliance, reputational damage, and supply chain disruptions, can significantly impact a company's performance. Management accountants contribute to identifying, assessing, and managing these risks. They can develop risk assessment frameworks, conduct risk analysis, and establish control systems to mitigate sustainability-related risks. By integrating sustainability risks into the organization's risk management processes, management accountants help safeguard the long-term viability of the business.
- **Strategy Development and Integration:** Management accountants play a crucial role in integrating sustainability into the organization's overall strategy. They work closely with top management to develop sustainability objectives, set targets, and align them with the organization's mission, vision and values. By integrating sustainability into the strategic planning process, management accountants ensure that sustainability considerations are embedded throughout the organization's operations, influencing decision-making at all levels. Thus, management accounting enables sustainability in business by providing the necessary tools, information, and analysis to measure, monitor, and manage sustainability performance. By integrating sustainability considerations into decision-making, costing, risk management, and strategy development, management accountants contribute to the long-term success and resilience of businesses in the face of environmental and social challenges.

STATEMENT OF THE PROBLEM

While the role of management accounting in enabling sustainability in business has gained recognition, there is a need for a comprehensive review to address the following key problem areas:

- **Limited Integration of Sustainability Metrics:** One problem is the limited integration of sustainability metrics within management accounting practices. Many organizations still primarily focus on traditional financial indicators, neglecting important non-financial aspects of sustainability. This gap prevents a holistic assessment of sustainability performance and inhibits informed decision-making that considers the full range of economic, environmental, and social impacts.
- **Inadequate Costing and Financial Analysis**: Another problem lies in inadequate costing and financial analysis of sustainability initiatives. There is a lack of standardized methodologies for accurately estimating and allocating costs associated with sustainability projects. Without robust cost analysis and financial modeling, organizations struggle to assess the financial viability and potential return on investment of sustainability initiatives. This hampers their ability to prioritize and effectively allocate resources to sustainability efforts.
- **Insufficient Integration into Strategic Decision-making:** Many organizations fail to fully integrate sustainability into their strategic decision-making processes. The problem lies in the limited involvement of management accountants in strategic discussions and the absence of sustainability considerations in the overall strategic planning. This leads to a disconnect between sustainability objectives and the broader organizational goals, hindering the effective integration and implementation of sustainability initiatives.
- **Limited Focus on Risk Management:** The role of management accounting in addressing sustainability-related risks are often overlooked. Organizations face various risks associated with sustainability, such as regulatory changes, reputational damage, and supply chain disruptions. However, management accounting practices often lack a systematic approach to identifying, assessing, and managing these risks. This gap undermines the organization's ability to proactively mitigate sustainability risks and protect long-term business interests.
- **Lack of Standardized Reporting and Disclosure Practices:** The problem of inconsistent reporting and disclosure practices in sustainability performance

exists. Management accounting plays a crucial role in developing key performance indicators (KPIs) and reporting frameworks to communicate sustainability performance. However, the lack of standardized reporting guidelines and frameworks hinders meaningful comparisons and benchmarking across organizations. This limits transparency, accountability, and stakeholder engagement in sustainability efforts.

Addressing these problem areas through a comprehensive review of the role of management accounting in enabling sustainability in business will contribute to advancing the field and promoting more effective integration of sustainability considerations in decision-making, planning, and control processes.

OBJECTIVES OF THE STUDY

- To highlight the potential benefits and business value of incorporating sustainability of management accounting practices, such as improved financial performance, enhanced reputation, and stakeholder engagement.
- To identify barriers and challenges in the effective integration of sustainability considerations within management accounting practices and propose strategies to overcome these obstacles.

DISCUSSION AND NOTES

Benefits and Business Value of Incorporating Sustainability of Managament Accounting Practices

- ***Improved Financial Performance*: ** Numerous studies have shown a positive relationship between sustainability practices and financial performance indicators.

  A study by *Harvard Business School* found that companies with high sustained performance demonstrated superior financial performance, including higher return on assets (ROA) and return on equity (ROE).A meta-analysis conducted by *Oxford University and Arabesque Partners* revealed that companies with strong environmental, social, and governance (ESG) performance outperformed their peers in terms of operational performance and stock market returns.The *Carbon Disclosure Project (CDP)* reported that companies implementing sustainable practices experienced higher gross margins and returns on investment (ROI) compared to companies with lower sustainability performance.

- ***Enhanced Reputation:*** Integrating sustainability management accounting practices can contribute to an organization's reputation and brand image. Consumers, investors, and stakeholders increasingly value companies that demonstrate responsible and sustainable business practices. Several studies have shown that sustainability-oriented organizations enjoy reputational benefits:

  A survey by *Nielsen* found that 66 per cent of consumers are willing to pay more for products and services from sustainable brands. The *Reputation Institute* reported that companies with a strong reputation for sustainability and corporate social responsibility (CSR) have higher levels of trust, customer loyalty, and positive brand perception. Research by *Cone Communications* revealed that 87 per cent of consumers would purchase a product based on a company's social or environmental commitment.

- ***Stakeholder Engagement:*** Incorporating sustainability management accounting practices can enhance stakeholder engagement and relationships. By addressing the concerns and expectations of various stakeholders, organizations can build trust and secure long-term support. Examples of stakeholder engagement benefits include the following :

  a. *Engaged Employees:* Sustainable practices can improve employee satisfaction, attract and retain talent, and enhance productivity. According to a study by PwC, 88 per cent of millennial employees consider an employer's CSR commitment when choosing where to work.

  b. *Investor Confidence:* Investors increasingly consider sustainability factors when making investment decisions. Sustainable companies often attract socially responsible investors, leading to improved access to capital and potential cost reductions. The Global Sustainable Investment Alliance reported that sustainable investments reached $30.7 trillion globally in 2018.

  c. *Regulatory Compliance and Risk Mitigation:* Integrating sustainability into management accounting can help organizations navigate regulatory requirements, manage environmental and social risks, and avoid potential legal and reputational consequences.

> **Climate change, resource depletion, social inequality, and stakeholder expectations, has made sustainability a critical consideration for businesses**

BARRIERS/ CHALLENGES AND STRATEGIES IN THE EFFECTIVE INTEGRATION OF SUSTAINABILITY

- **Lack of Awareness and Understanding** ***Barrier*:** Many organizations lack awareness and understanding of the potential benefits and value of integrating sustainability management accounting practices.

  Strategy: Conduct awareness campaigns, training programs and knowledge-sharing sessions to educate management accountants and organizational leaders about the importance of sustainability and its alignment with financial performance. Highlight case studies and success stories to demonstrate the tangible benefits of sustainability integration.

- **Limited Availability of Relevant Data and Metrics:** ***Barrier:*** Obtaining accurate and reliable data related to sustainability can be challenging, as traditional accounting systems may not capture non-financial information effectively.

  ***Strategy*:** Develop robust data collection processes and invest in appropriate systems to capture sustainability-related information. Collaborate with stakeholders to identify relevant sustainability metrics and establish standardized reporting frameworks. Explore partnerships with external organizations that specialize in sustainability data and reporting to ensure data accuracy and comparability.

- **Integration with Existing Systems and Processes:** Incorporating sustainability management accounting practices may require changes to existing systems, processes, and structures, which can be perceived as disruptive or costly.

  Strategy: Conduct a thorough assessment of existing management accounting systems and processes to identify opportunities for integration. Implement gradual changes and pilot programs to test sustainability integration on a smaller scale. Communicate the long-term benefits of integration, including improved decision-making, risk management, and stakeholder engagement, to gain organizational buy-in.

- **Limited Collaboration and Communication:** Siloed departments and lack of collaboration between sustainability, finance, and accounting teams hinder effective integration.

  Strategy: Foster cross-functional collaboration and communication by establishing clear roles and responsibilities for sustainability and finance/ accounting teams. Encourage regular meetings and knowledge-sharing sessions to facilitate collaboration and information exchange. Develop shared goals and metrics that align sustainability and financial objectives to encourage a collaborative approach.

- **Resistance to Change:** Resistance to change is a common obstacle when integrating sustainability into management accounting practices, as it requires a shift in mindset, culture, and established practices.

  ***Strategy*:** Engage and involve key stakeholders throughout the integration process to address concerns and gain their support. Highlight the strategic advantages and competitive edge that sustainability integration can provide. Provide training and professional development opportunities to enhance the skills and knowledge of management accountants in sustainability-related areas.

- **Cost Considerations:** The perception that sustainability integration is costly and lacks immediate financial returns can deter organizations from pursuing it.

  Strategy: Conduct a thorough cost-benefit analysis to identify potential cost savings, efficiency improvements, and long-term financial benefits associated with sustainability integration. Highlight examples of organizations that have successfully achieved financial gains through sustainability initiatives. Emphasize the importance of considering long-term value creation and risk mitigation.

- **Regulatory and Reporting Complexity:** Complex regulatory frameworks and reporting requirements related to sustainability can pose challenges for organizations, particularly in terms of compliance and reporting accuracy.

  ***Strategy*:** Stay updated on evolving regulatory requirements and reporting frameworks related to sustainability. Develop robust internal controls and processes to ensure compliance. Seek external expertise or collaborate with sustainability reporting organizations to navigate complex reporting requirements effectively.

CONCLUSION

The role of management accounting in enabling sustainability in business is of paramount importance. By providing tools and techniques for measuring, analyzing, and integrating sustainability considerations, management accountants contribute to the overall success of organizations striving to achieve sustainability goals. As businesses face increasing pressure to operate responsibly and address societal challenges, the adoption of sustainable management accounting practices becomes a critical component of long-term success and resilience. MA

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RE-ENGINEERING THE DECISIONAL PROCESS IN MANAGEMENT THROUGH FINTECH

Abstract

Technologies like Artificial Intelligence, Big Data, Internet of Things (IoT), RFID, Distributed Ledger Technology, Cloud Computing, Robotic Process Automation and Smart Contracts are taking the world by storm. As technology leaps forward and takes forms which were unheard of and unthought of even a decade back, businesses are eager to harness these by all means they can to improve the way they function and thrive. The applications of such technology in businesses are countless right from simple logistics management to enhancing the trust level across the value chain, from simple integration with ERP in order to ensure better accounting at the grass-root level to establishing robust decision-making systems and risk management frameworks to ensure better decision-making at the governance level. The applications of technology in the areas of Banking, Financial Services and Insurance sector is also vast, which has lead to the development and launch of peer-to-peer lending platforms, trading in cryptocurrencies and non-fungible tokens, revolutionising cross-border payments, alternative insurance underwriting, and alternative credit scoring systems. Besides these, the potential applications of such innovations towards a sustainable future are also immense. However, each technological innovation brings with it, its own security concerns and challenges in regulating the participants to ensure fair play to everyone concerned. Moreover, with technology like using Artificial Intelligence for analysis and decision-making, it is important to ensure that the decisions still remain ethical. This is where the role of professionals like Cost Accountants become important and indispensable.

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"We're witnessing the creative destruction of financial services, rearranging itself around the consumer. Who does this in the most relevant, exciting way using data and digital, wins!" – Arvind Sankaran

FINTECH: A KEY FACTOR

How a business survives and thrives depends on the quality of its decision-making. The quality of its decision-making is based on various factors viz. adequacy and reliability of management information systems, which in turn hinge on the adequacy and effectiveness of internal control systems and processes. The quality, timeliness, reliability and completeness of data are often critical requirements for sound decision-making. As a business grows and expands, robust information systems supported by a good information technology (IT) infrastructure and IT security is needed. Deployment of enterprise resource planning software, database management systems, data analysis and mining tools have already become indispensable. However, even as technology is growing by leaps and bounds every day, the deployment of various newer tech-based tools is increasingly becoming a critical component not just to stay ahead of the competition, but even to survive in this dynamic and integrated world. In this article, we discuss the impact of some major breakthroughs in the tech and fintech world that could have far-reaching implications on the quality of decision-making by the management.

TECH-BASED TOOLS THAT REDEFINE DECISIONAL ASPECTS[1]

Big Data analytics

While traditional data warehouses and data mining capabilities have helped organisations so far, big data and big data analytics refer to a technology having the ability to handle and make sense of data that is characterised by three Vs – volume, variety and velocity – massive volumes of structured and unstructured data of different formats collected from different sources on real-time basis.[2]

Statistical analysis of big data from the consumer-facing sources like e-commerce websites and apps will provide important inputs for volume and price decisions like a more reliable assessment of demand, ability to pay and purchase patterns of consumers. Moreover, analysis of data from the internal operations of the company will provide a deep insight on the cost behaviour and possible measures for cost reduction by identifying causal effects between two or more factors, thereby leading to more precise identification of leakages and possible unproductive usage of resources. Though the big data analytics is popularly known for its three Vs, there are other seven Vs which are equally relevant in the process. The following diagrammatic representation says it all.

Source: towardsdatascience as taken from *https://www.analyticsvidhya.com/blog/2022/09/the-origin-of-big-data-analytics/*

Artificial Intelligence

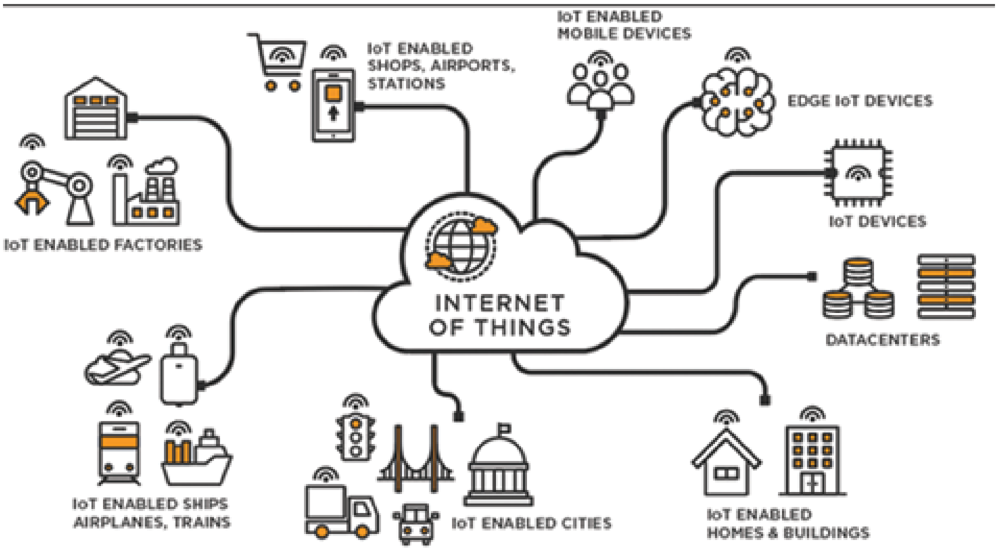
While the applications of Artificial Intelligence (AI) are many – for example, in natural-speech recognition systems, advanced web search engines, user recommendation systems, AI chatbots, decision-making tools, etc., their use in data analysis and consequently in management information systems could be far reaching. While human mind could be subject to various bias, using AI tools on the results of big data analytics could help arrive at unbiassed decisions by weeding out irrelevancies[3]. While bias could creep in AI too, it can, however, be taught to identify what is an ideal solution from an ethical point of view. AI tools can be used to help analyse past behaviour and predict future costs of inputs, quality parameters, employee performance and turnover, consumption and demand patterns, even broader economic indicators, and help arrive at unbiassed hiring decisions, pricing decisions, sourcing decisions, scaling/capacity-utilisation and expansion decisions, etc.

[1] *https://www.mckinsey.com/cn/our-insights/our-insights/seven-technologies-shaping-the-future-of-fintech*
[2] *https://addepto.com/blog/big-data-vs-data-warehouse-key-differences/*
[3] *https://www.sap.com/insights/viewpoints/how-ai-can-end-bias.html#:~:text=By%20exposing%20a%20bias%2C%20algorithms,make%20more%20accurate%2C%20unbiased%20decisions.*

Internet of Things (IoT)

Internet of things (IoT) refers to embedding of physical objects and devices like cars, doors, lights, fans, or anything for that matter, with sensors and processors with the ability to communicate or exchange information over the Internet with other systems or devices. Ever since IoT has become mainstream, the ability to gather and accumulate data from the grassroot level has grown many-fold and this results in availability of first-hand information on user experience, user behaviour and performance and quality parameters too.

A related technology to discuss here will be RFID labelling (radio frequency identification) because of its contribution to better logistics management. RFID tags contain information about the goods or materials they are attached to and the tags can be read with RFID readers. When materials and goods are attached with RFID tags, they can be uniquely identified and their presence can be verified from longer read ranges. The tags also enable very fast read speeds as can be observed from their use in toll collection mechanisms like FASTag. Data from the tags is passed on to the scanners, which is then transferred to a central database for storage and processing. The following diagrammatic representation will give an "at a glance" impression on IoT.



Source – https://www.tibco.com/reference-center/what-is-the-internet-of-things-iot

Distributed Ledger Technology

Distributed ledger technology (DLT), especially, blockchain technology has resulted in various innovations, especially in the fintech industry and also in manufacturing.DLT ensures that transactions or records are updated over a distributed ledger instead of a centralized one, thereby allowing simultaneous access and verification by multiple parties on a network. This ensures highest levels of data integrity as data once entered cannot be modified and obviates the need for a centralized agency to store or manage or monitor the records. This has given rise to the concept of blockchain technology and other resultant products like cryptocurrencies and NFTs (non-fungible tokens). The applications of this technology in specific sectors are discussed in the forthcoming section.

Cloud computing

Cloud computing refers to the online and on-demand access of various services like software, infrastructure and platforms, which has given rise to the concepts of 'software-as-a-service'(SaaS), 'platform-as-a-service'(PaaS) and 'infrastructure-as-a-service'(IaaS).[4]Cloud computing platforms help smaller businesses in lowering or eliminating the prohibitive capital expenditure involved in purchase and maintenance of servers and software, by offering them these services on periodical payments on usually a pay-as-you-go model. This renders the flexibility to scale up or down depending on the business requirements.

No-Code Development Platforms

Gone are the days when businesses had to hire software programmers with skills in writing complex codes with a hefty pay package to write them codes for carrying out tasks. Applications can be developed these days on no-code or low-code development platforms, which provide user-friendly graphical-user interface (GUI) to help create customised analytical tools or automation of tasks as per the requirements of the user. Generation of MIS reports may be automated by deploying customised applications on the data made available by ERP applications. This may again be integrated with big data, data from IoT and RFID scanners, which would lead

[4] *https://en.wikipedia.org/wiki/Cloud_computing*

to real-time reporting to the management thereby enhancing the quality of decision-making.

Robotic process automation (RPA) can also be deployed here, which can work much like a human employee, working across discrete and unconnected software applications to perform repetitive tasks especially through front-end integrations[5]. Combining such automation with machine learning and AI technologies will lead to automation that gets better with time.

APPLICATIONS OF FINTECH INNOVATIONS IN BSFI AND MANUFACTURING SEGMENTS

Banking, Financial Services and Insurance

The applications of these technological innovations have had the most impact in the BFSI sector.

- For banks and other financial sector entities, improved customer relationship is enabled by a better and deeper analysis of customer data not only based on the customer transactions but also from the data gathered from third-party websites.
- As traditional credit scoring systems look into the borrowing history to come up with a credit score, those who do not have a borrowing history end up paying higher interest rates on their loans. Alternative credit scoring platforms have come up, which cater especially to the loan applicants who do not have a prior borrowing history. They base their scoring on factors other than a steady income using big data, for example, their payment habits, which would enable even non-salaried self-employed persons to get better ratings.
- Alternative insurance underwriting is done by taking into account alternative data from electronic records to analyse the lifestyle of the customers, predict health issues and underwrite the risks and price the policies in a better manner.The potential applications of IoT in the insurance sector is also immense. For example, cars with IoT can provide data about driving patterns which can benefit better underwriting of risks by insurance companies.
- Peer-to-peer(P2P) lending platforms and other forms of crowdfunding platforms have come up which make the process of borrowing money simpler and easier by matching those who want to borrow with those who want to lend, while streamlining the process, inter alia, by verifying the borrowers' identity and assessing their repayment capacity.They offer an alternative mode of investments for those who have a higher risk appetite and an alternative mode of funding for those who are either unable to avail traditional sources of funding.
- 'Buy now pay later' mechanism helps consumers make purchases by requiring them to pay a small down payment and the rest later and usually do not charge interest on them, unless the payment is made after thestipulated time schedule . They do not require credit checks usually.
- Payment gateways, wallets, and related apps have been made possible through sharing of data combined with the ability to seamlessly exchange data among various participants. Cross-border remittances and payments have the potential to undergo a huge change with the advent of fintech apps and websites that offer quicker cross-border remittances with much lower processing fees than through the traditional banking channels. In the future, DLT would be enabling cross-border payments in a much more efficient manner. Cryptocurrencies, which are based on blockchain technology, cryptoexchanges and the ecosystem surrounding them have come up as an alternative to the traditional monetary economy.

Manufacturing

Manufacturing sector is the one that can see a lot of benefits from the deployment of the aforesaid technologies. With the deployment of DLT combined with RFID and IoT and their integration with ERP systems, their usage can result in better inventory and asset management, logistics management and help establish stronger supply chains and bring in more integrity and reliability to accounting records as they are likely to reflect the actuals better. Combining DLT with IoT/ RFID, the location of physical objects and their quality aspects can be stored on a distributed ledger available for viewing across the partners in the supply chain, thereby enhancing the trust level in the supply chain multi-fold. Asset ownership records can also be in-built in the systems. This combined with the technology of smart-contracts could lead to seamless and automated flow of transactions through-out the supply chain. Smart-contracts are those that auto-execute without human intervention on satisfaction of certain conditions. For example, payment to a supplier could be triggered based on the satisfaction of conditions like delivery of a certain number of goods of specified quality at a particular location, all of which can be measured using IoT and RFID. Smart-contract algorithm could also take into account lapse of time to take into account any credit period provided. Integrating IoT, RFID and smart-contracts could have far-reaching implications in supply-chains especially for those products where origin and quality matters, like medicines, rare gems, groceries, etc.[6]

All this helps in streamlining the processes across the supply chain due to the enhanced accountability and transparency, which in turn results in ease of communication, better quality assurance and lowering of costs due to improved efficiency.

[5] *https://www.ibm.com/topics/rpa*

[6] *https://ccecosystems.news/en/dlt-in-the-supply-chain-can-it-guarantee-traceability/*

Fintech and Sustainability

Fintech innovations help create not only a more equitable world and but also create a sustainable world by helping create sustainable products, besides the benefit of doing away with the need for paper documentation. These days many sustainable fintech companies are on the rise that aim to have minimal impact on the environment and that aim to provide products that have a minimal impact.

Applications for Professionals

Using no-code or low-code development platforms and robotic process automation, applications could be developed to build GRC– governance, risk and compliance -aspects into the IT infrastructure so that compliance with the organisational policies and regulatory requirements are taken care of. Such systems could be used for automation of book-keeping processes, MIS report generation, and streamlining of board processes. Big data, AI analytics, RFID, IoT and a well-integrated ERP could help the cost accountants to arrive at accurate cost data and consumption patterns for better pricing decisions. Analysis of industry-level and macro-economic parameters could also lead to better risk management systems.

CHALLENGES IN FINTECH INNOVATIONS – SECURITY CONCERNS AND REGULATORY ENVIRONMENT

As new technology emerges, it not only enables better quality of living, but it also brings with it newer ways of committing frauds and security concerns. For example, fraudsters lure investors to invest their hard-earned money by promising high returns for investments in cryptocurrencies or in online trading platforms, or send UPI payment links in the guise of rewards or cashbacks to unsuspecting consumers that triggers unintended payments to third parties.

In order to deter such risks and to regulate the players in the fintech environment, the regulators have been coming up with some measures. RBI has required P2P platform-providers to seek registration as NBFC-P2Ps and issues directions to regulate their operations. In respect of crypto-exchanges, the present position in India is that they are neither regulated nor prohibited, and hence the entire risk is on the investors; however, there is a 30 per cent tax plus cess on the gains made from trading in digital assets like cryptocurrencies and non-fungible tokens. The difficulty in regulating them lies in

Artificial intelligence, for decision-making must always be complemented by human intervention at regular intervals

the fact that digital assets and transactions in them, by their very nature, are decentralized and are borderless, and hence require international co-operation at a larger scale. However, interim measures are attempted by the regulators. Transactions in virtual digital assets have been brought under Prevention of Money Laundering Act, 2002, vide a notification issued by the Ministry of Finance on 7th March, 2023. [7] Besides the provisions in the Information Technology Act, 2000, the Digital Personal Data Protection Bill, 2022 is proposed for the protection of the personal data of the consumers.

FINAL THOUGHTS

"Ignoring technological change in a financial system based upon technology is like a mouse starving to death because someone moved their cheese" – Chris Skinner

Fintech innovations have immensely improved the quality of life but are also embedded with challenges. Law usually evolves in response to and not in anticipation of the changes in the business environment. It is up to the management of companies deploying such technology to implement cyber security and data protection measures to protect their clients and for professionals like internal auditors, information security auditors and ISO auditors to identify any weaknesses and provide recommendations to address them. The role of Cost Accountants here will be immense.

It must be remembered that technology can never replace human judgment entirely. Hence, the deployment of various tools, especially artificial intelligence, for decision-making must always be complemented by human intervention at regular intervals to keep tabs on whether the decisions taken continue to adhere to the organisational policies and ethical standards expected of the leadership. As Steve Jobs lucidly said, "Technology by itself does not make leaders. Technology only amplifies true leadership." MA

[7] *https://egazette.nic.in/WriteReadData/2023/244184.pdf*

TECHNOLOGICAL INNOVATIONS PROMOTING SUSTAINABILITY THROUGH STRATEGIC MANAGEMENT ACCOUNTING

Abstract

Continuing technological innovations are paving the way for better strategic management accounting outcomes in current days. These efficient outcomes are also paving the way for more robust and efficient business decisions. Technological innovations like artificial intelligence, data lakes, hyper automation, RegTech and other customised software promote sustainable strategic decisions among business houses. Sustainable strategic decisions are indispensable today for sustainable performance.

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BACKGROUND

Management accounting is a very vital job in the context of efficient managerial decision making. Various technological innovations are highly assisting management accountants in financial and non-financial data analysis. High-end tech-based analysis supporting tools provide much better outcomes than traditional ways. Considering the importance of management accounting outcomes in organizational strategic decision making; analysis supporting tools and other supporting tech. innovations take the center stage. Long term or strategic decisions are very vital for sustainable organizational performance. In this context; exploring technological tools promoting robust decisional premises has a very good socio-economic worthiness.

IDENTIFICATION OF RESEARCH GAP

Management accounting plays a crucial role in managerial decision making. Few organizations, especially large ones use managerial accounting as a support for managerial decision making, *(Frumusanu, et. al, 2013)*. The new ways of management accounting promote the chances of undertaking successful inventions by the organizations*(Yeshmin & Hossan, 2011)*.Managers generally use information rendered by management accounting system as a basis for considering relevancy of any decision rather using it directly for decision making *(Heidmann, 2008)*.Management Accountants require advanced technical knowledge for ensuring better supporting outcomes in modern days, *(Pierce, et. al, 2003)*.Even the small and medium businesses are using information technology-based platforms like cloud computing for data analysis, *(Khaliq, et. al. 2021)*.

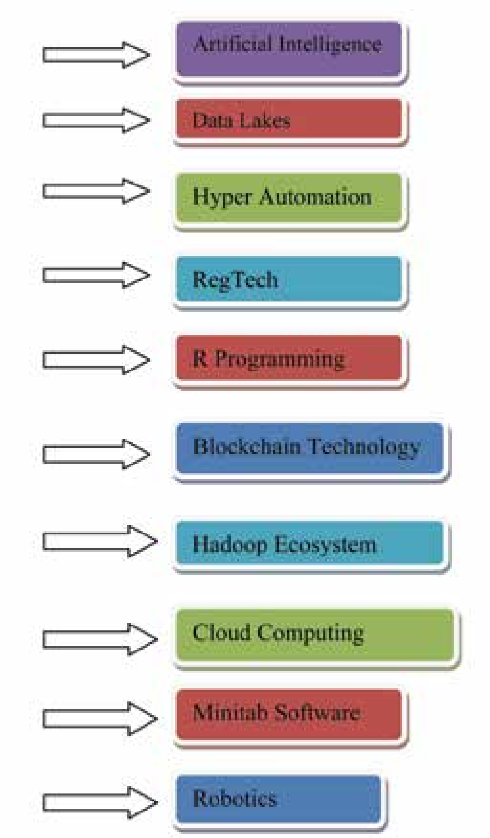
Growing importance of management accounting and its relationship with modern IT based technologies necessitates the researcher to study the state-of-the-art technologies used by Management Accountants for ensuring strategic decision making.

RESEARCH OBJECTIVE AND METHODOLOGY

The study is primarily aimed at exploring the recent technological breakthroughs that promote data analysis undertaken by the Management Accountants. For bridging the said research gap as identified through the review of concerned literatures the present researcher has adopted descriptive study method. How different modern technologies are used for data analysis is critically examined in this study.

CRITICAL EXAMINATION OF PRESENTED FACTS:

There are various tools that assist Management Accountants in data analysis through proper data mining, data storage and sharing of data. Several of those tools which are becoming very popular especially for big data analysis are discussed here.



Artificial Intelligence (AI)

AI based technologies and tools provide a lot of assistance in big data analysis. AI technology is capable of discharging analytical activity in an independent manner and hence substitutes human effort in the concerned area of work. AI based software also undertake big data analysis. Management Accountants don't have to calculate decisional parameters on their own now. AI based systems delivers it directly based on command given.

Data Lakes

It is a vast repository of multi-dimensional structured and unstructured data. Management Accountants can apply a wide variety of analytical tools to this vast data base for realising desired goals. These types of data base contain both quantitative and qualitative data. Hence it promotes qualitative data analysis along with quantitative data analysis. This system can capture and store unstructured data from the online customer interaction point.

Hyper Automation

It is a business process automation technology developed with the hybrid application of AI and machine language (ML). This technology allows automatic execution of various routine activities of the organization in a virtual manner. Result of these activities includes various reports and statistics which are very critical for strategic decision making. Normal business processes like customer interaction, grievance redressal, stock maintenance, job appraisal, etc. can also be undertaken through this technology.

RegTech

It is a technology used by commercial organizations especially to ensure regulatory compliance. This is a software based IoT technology application through which organizations collect, scrutinize and present varied information for the purpose of regulatory compliance. The information that is structured through this technology not only ensures compliance execution but also helps managers and management accountants in strategic decision making. Various companies also provide RegTech solutions to different organizations as outsourcing.

R Programming

It is statistical software used for data analysis both by social science researchers and managerial personnel. It is a high-end customizable software capable of undertaking various statistical tests. Management Accountants can establish multi-dimensional relationship among quantitative and qualitative data sets through this software. The predictive outcomes are reliable for strategic decision making considering the robustness of the program.

Blockchain Technology

This technology enables secure storage and distribution of data. Management Accountants can avail untampered data sets through this technological application for analysis. The analytical outcomes can also be securely encrypted and distributed to targeted group of people for strategic decision making. Though this technology is not so popular in the country and is in developing stage it is gaining acceptance among organizations for its several remarkable features.

Hadoop Ecosystem

It is a set of application tools thatassist in smooth performance of big data analytics. Hadoop ecosystem ensures efficient handling of voluminous data set through data segregation and distributed processing. This tool enables segregation of large and multi-dimensional data into several pieces as per processing requirement. Then those data pieces are automatically processed at different organizational ends in a secure and correct manner. It ensures department wise qualitative and quantitative analysis of financial and non-financial data. There are different groups of software that support this application in a network of hardware.

Cloud Computing

This is an IT based virtual storage and distribution technology. This technology provides information exchange among a group of devices located close or far from each other. Here devices are connected through a server and information originating from different devices is stored in that server. This ensures cost and storage effective flow and usage of information among the devices. Here the server where data is stored is called cloud. This technology provides Management Accountants with large volume of data including that originating from outside the organization for analysis.

Minitab Software

This is statistical software that promotes data analysis through various sets of statistical tests. This is robust software that can be operated by Management Accountants with minimum training and effort. This software basically supports quantitative statistical analysis of financial data through identification of variables and establishing of relationships. With the passage of time this tool is becoming very conducive for business strategic decision making.

Robotics

Robotics in data science is the latest application of robotic technology in any knowledge domain of the world. Robotics or application of robot in discharging any job requires collaborative application of AI and IoT technologies. Robots can perform and deliver solutions of complex qualitative equations that are astonishingly important for sustainable organizational performance. The way innovations are taking places in the field of robotic applications in the near future the work of Management Accountants can be largely as command givers than mere executors.

AI technology is capable of discharging analytical activity in an independent manner

CONCLUSIVE DISCUSSIONS

The above discussion explains different modern technologies that are aiding the job of Management Accountants. Management Accountants in the olden days used to collect data and perform analysis. These activities are executed by them without any assistance from any technological counterparts. This increases the chances of error in traditional management accounting system. The reports also take much longer time to be ready and hence strategic decisions entailed much longer time.

Today's complex business environment demands more precise and time bound results from Management Accountants for ensuring sustainable strategic business decisions. Modern technologies that are used by the Management Accountants, first of all supply all that information which are relevant to the organization. In the traditional days this itself was a herculean task. Secondly, today's business situation demands global inputs in Management Accountant's reports. In the olden days it was very costly and time consuming for business organizations to collect information originating from outside the organization. Today with the rapid expansion of innovation in the field of AI, ML, IoT and in other IT based areas, sourcing of external information is a matter of second.

Strategic business decision making today requires processing of large volumes of data. Handling and processing of big data was a myth in the past. . Technologies that are available today ensure efficient handling and processing of big data required by the businesses. For all these issues modern IT based technologies are paving the way for much successful management accounting than in the past.. These are visible from sustainable organizational performance.

In spite of multiple benefits coming from using of modern technologies there are certain areas where precautions need to be taken. The data security aspect needs to be more refined and robust. Asunder the era of big data analysis data movement is very easy and quick, checking of data theft and misuse should be taken care off. Another significant issue that should be taken care off is hardware security. In the present day all information is stored in the machine. Any harm to the machine implies loss of information. Finally, technical knowledge of the Management Accountants needs to be sharper for better use of modern technologies in management accounting. MA

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SEBI AND THE REFORM ON SUSTAINABLE FINANCE (Part 3 of 3)

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Abstract

Disclosure requirements for green bonds were updated by SEBI to facilitate transparency and thereby enable investors to make informed investment decisions. For example, Introduction of appointment of a third party is made applicable on comply-or-explain basis, which is expected to give credibility that international investors look for while investing in green bonds. Similarly, continuous disclosure of utilization of proceeds is expected to help in tracking and ensuring that the proceeds are being utilised towards the purpose they were raised for. Further, granular disclosure requirements are aimed at enabling issuers to inculcate good practices.To address the concerns related to greenwashing, apart from the granular disclosure requirements including impact reporting, disclosure of certain elements of BRSR and verification by a third party etc., SEBI has also prescribed certain dos and don'ts that issuers of green debt securities must follow to avoid instances of occurrence of greenwashing like to not use misleading labels, hide trade-offs or cherry pick data and make untrue claims etc. Further it is issuer's responsibility to adhere to the regulatory framework for the green debt securities.

Disclosure and other requirements:

The third part of the article discusses the initial and continuous disclosure requirements to be complied with by an issuer of green bonds and the issue of greenwashing.

Disclosure requirements:

Let us look at the disclosure requirements for issuers desirous of issuing green debt securities in detail. Disclosures are initial and final.

Initial disclosure requirements for issue and listing of green debt securities

An issuer desirous of issuing green debt securities shall make the following additional disclosures in the offer document for public issues / private placements:

1.1 A statement on environmental sustainability objectives of the issue of green debt securities;

1.2 Brief details of decision-making process followed/ proposed for determining the eligibility of project(s) and/or asset(s), for which the proceeds are being raised through issuance of green debt securities, such as:

a. process followed/ to be followed for determining how the project(s) and/or asset(s) fit within the eligible green projects categories as defined under Regulation 2 (1) (q) of NCS Regulations,

b. the criteria making the project(s) and/ or asset(s) eligible for using the green debt securities proceeds; and

c. details of taxonomies, green standards or certifications both Indian and global, if any referenced and the alignment of projects with said taxonomies, related eligibility criteria, and exclusion criteria, if applicable.

d. Details of the alignment of the objective of the issue with the India's Intended Nationally Determined Contributions in case of the proceeds raised though issuance of transition bonds

1.3 Details of the system/procedures to be employed for tracking the deployment of the proceeds of the issue.

1.4 Details of the project(s) and/or asset(s) or areas where the issuer, proposes to utilise the proceeds of the issue of green debt securities, including towards refinancing of existing green project(s) and/or asset(s), if any.

1.5 Details of an indicative estimate of distribution of proceeds raised though issuance of green debt security between financing and refinancing of project(s) and/ or asset(s); if applicable.

1.6 Details of the intended types of temporary placement of the unallocated and unutilised net proceeds from the issue of green debt securities

1.7 Details related to the perceived social and environmental risks and proposed mitigation plan associated with the project(s) proposed to be financed/ refinanced through the proceeds from the issue of green debt securities

1.8 The issuer shall appoint an independent third party reviewer/ certifier, for reviewing/certifying the processes including project evaluation and selection criteria, project categories eligible for financing by green debt securities, etc.

The said requirement of appointing a third party reviewer/ certifier is applicable on a 'comply or explain' basis for a period of two years. 'Comply or explain' for the purpose of the above, shall mean that the issuer shall endeavour to comply with the provisions and achieve full compliance by two years from the date of issuance of the circular. In case the entity is not able to achieve full compliance with the provisions till such time, the issuer shall in its annual report, explain the reasons for such non-compliance/ partial compliance and the steps initiated to achieve full compliance.

Continuous disclosure requirements for listed green debt securities:

2. An issuer who has listed green debt securities, shall provide following additional disclosures along with its annual report and financial results:

2.1 Utilisation of the proceeds of the issue, as per the tracking done by the issuer using the internal process as disclosed in offer document. Utilisation of the proceeds shall be verified by the report of an external auditor, to verify the internal tracking method and the allocation of funds towards the project(s) and/or asset(s), from the proceeds of green debt securities.

2.2 Details of unutilized proceeds including the temporary placement/utilization of unallocated and unutilized proceeds from each ISIN of green debt security issued by the issuer.

2.3 The following additional disclosures shall be made in the Annual Report:

a. List of project(s) and/or asset(s) to which proceeds of the Green Debt Securities have been allocated/invested including a brief description of such project(s) and/or asset(s) and the amounts disbursed.

b. Qualitative performance indicators and, where feasible, quantitative performance measures of the environmental impact of the project(s) and/ or asset(s). If the quantitative benefits/impact cannot be ascertained, then the said fact may be appropriately disclosed along with the reasons for non-ascertainment of the benefits/impact on the environment

c. Methods and the key underlying assumptions used in preparation of the performance indicators and metrics;

d. Details of the deployment of the mitigation plan (as disclosed in the offer documents) for the perceived social and environmental risks

3. An issuer shall appoint a third party reviewer/ certifier for a green debt security for the following:

3.1 Post-issue management of the use of proceeds from the green debt security,

3.2 verification of the internal tracking and impact reporting.

The said requirement of appointing a third party reviewer/ certifier is applicable on a 'comply or explain' basis for a period of two years. 'Comply or explain' for the purpose of the above, shall mean that the issuer shall endeavour to comply with the provisions and achieve full compliance by two years from the date of issuance of the circular. In case the entity is not able to achieve full compliance with the provisions till such time, the issuer shall in its annual report, explain the reasons for such non-compliance/ partial compliance and the steps initiated to achieve full compliance

Responsibilities of the issuer

4. An issuer of green debt securities shall:

4.1 maintain a decision-making process which it uses to determine the continuing eligibility of the project(s) and/or asset(s). This includes, without limitation statement on the environmental objectives of the green debt securities and a process to determine whether the project(s) and/ or asset(s) meet the eligibility requirements;

4.2 ensure that all project(s) and/or asset(s) funded by the proceeds of green debt securities, meet the documented objectives of green debt securities;

4.3 utilise the proceeds only for the stated purpose, as disclosed in the offer document; and

4.4 ensure compliance with the SEBI circular dated February 03, 2023 on "Dos and don'ts relating to green debt securities to avoid occurrences of greenwashing"

SEBI efforts to curb greenwashing:

SEBI has said in its circular that to address the concerns of market participants, regarding greenwashing, an issuer of green debt securities shall ensure the following to avoid its occurrence:

i. While raising funds for transition towards a greener pathway, it shall continuously monitor to check whether the path undertaken towards more sustainable form of operations is resulting in reduction of the adverse environmental impact and contributing towards sustainable economy, as envisaged in the offer document.

ii. It shall not utilize funds raised through green bonds for purposes that would not fall under the definition of *'green debt security'* under the NCS Regulations.

iii. In case any such instances mentioned in (ii) above come to light regarding the green debt securities already issued, it shall disclose the same to the investors and, if required, by majority of debenture holders, undertake early redemption of such debt securities.

iv. It shall not use misleading labels, hide trade-offs or cherry pick data from research to highlight green practices while obscuring others that are unfavourable in this behalf.

v. It shall maintain highest standards associated with issue of green debt security while adhering to the rating assigned to it.

vi. It shall quantify the negative externalities associated with utilization of the funds raised through green debt security.

vii. It shall not make untrue claims giving false impression of certification by a third-party entity.

Conclusion:

In the backdrop of increasing interest in sustainable finance in India as well as around the globe, and with a view to align the extant framework for green debt securities with the updated Green Bond Principles (GBP), SEBI has undertaken a review of the regulatory framework for green debt securities. This is in line with the changing market landscape domestically as well as globally and part of the regular exercise SEBI undertakes – which is, in consultation with market participants, reviewing its regulatory framework from time to time

The enhanced scope of green debt securities is expected to not only enable issuers to raise funds for broader categories of projects/Asset class but also allow investors to invest in various avenues of sustainable investment; the strengthened disclosure requirements by the issuers provides granular information to the investors which will enable them to make an informed investment decision. Further,the enhanced disclosures and guidelines on greenwashing will enable the issuers to avoid the instances of greenwashing. MA

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A STUDY OF FACTORS AFFECTING INVESTMENT DECISION MAKING DURING COVID-19

Abstract

This study examines how pandemic COVID-19 affected individual investors' investment decisions. Investors' COVID-19 risk perception, risk propensity, stock market volatility anxiety and vaccine update information were studied. A systematic online questionnaire collected data from 400 Indian respondents of various ages, incomes, marital statuses, and occupations. The study period was November 2021 to March 2022. SPSS was used for cronbach alpha, factor analysis and multiple regression. Risk perception, vaccination updates, herding tendencies and fear affected investor investment decisions during COVID-19 pandemic/emergency situations, while risk propensity and investor anxiety due to stock market volatility did not affect investment decision in a similar way.

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INTRODUCTION

To maximize wealth with little risk, an investor carefully examines investment quantity, market, and timing. This article explores an investor's post-COVID investing decision. Investors must understand numerous decision-making factors to avoid blunders. Investors select financial instruments and industries depending on risk and expected returns (*Kahneman & Tversky,* 1988; *Rothschild,* 1985; *Linciano*et al., 2012; *Nosic& Weber,* 2010). Investors evaluate risk (*Keller & Siegrist,* 2006). *Kahneman* (2003) discovered uncertainty influences investor decisions. Since COVID-19, share markets globally have been unpredictable, placing investors at greater risk (*Ashraf,* 2020). Global travel restrictions and monetary policies affected economic activity. Research shows psychological and technological factors affect investment decisions. Market fluctuations effect investor decisions *(J.Shiller,*1991). Experts evaluate corporate financial statements, risks, and rewards to invest. Individual investors must evaluate investment sustainability using psychological factors (*Moueed&Hunjra,* 2020). Financial experts employ parametric and hunches (*Riaaz&Hunjra,* 2015). Thus, psychological factors and events like COVID-19 and SARS affect investors' decisions (*Wang* et al., 2013; *Ali,* 2020; *Conlon & Mc Gee*, 2020).

This study tries to discover behavioral traits that influenced individual investors' investment decisions during and after the COVID-19 epidemic. The epidemic has affected the daily life, business and the stock market (*Sansa,* 2020). This caused Nifty to vary by thousands in a short period, scaring low-risk investors. COVID-19 is the first natural disaster to affect every country on an individual, economic, and national level, causing share market instability. This study investigates post-pandemic investor psychology. Descriptive study used factor loading, Cronbach Alpha, descriptive analysis and multiple regression.

LITERATURE REVIEW

Risk Perception

Risk perception refers to an investor's behavioral expectation about movement and returns from a financial instrument based on his past observation about the instrument (*White & Fan*, 2006; *Zajac*2004). It plays a crucial role in investment decision as it determines whether the investor will buy, hold, sell and not to buy a particular investment [*Hamid* (2013)] If he perceives high volatility with high risk, a risk averse investor would refrain from investment.

Risk Propensity

It means an investor can handle investing risk (*Sitkin, S.B., &Weingart,* 1995; *Pablo,* 1997). Since they need a steady income, investors who depend on returns are less risk-tolerant. An investor seeking money may take more risks. Investors associated volatility with high profits, according to *Lincianoet* al. (2012).

Fear

Investors expect their investment to lose value (*Plasmans,* 1975). The pandemic made households fearful about COVID-19 medical costs. Retail investors feared this. *Wagner* (2020) said investors avoid risky situations despite their potential. *Taylor* et al. (2020) found that investor stress during pandemics affected their financial decisions.

Market Fluctuations lead Investment Anxiety

Fitzgerald (1999) examined how market volatility affects investor portfolio decisions. *Sansa* (2020) found that volatility and anxiety-driven financial behavior reacted strongly to COVID-19 news in the U.S. and China. *Ali* (2020) found that Chinese markets steadied before U.S. markets because they had access to COVID news first. The pandemic lowered the US capital market. *Riste* and *Matej* (2018) examined the West African Ebolavirus outbreak's effects. Ebola also boosted the share volatility.

Update of Vaccination Information

All news affects the stock market (*Braun* et al. 1996). *Colon* and *Mc. Gee* (2020) found that COVID-19 lowered bitcoin prices. *Wang* (2014) examined the biotechnology industry's impact on Taiwan's stock exchange amid SARS and swine flu outbreaks.

SAMPLE DATA COLLECTION PROCEDURE

Four hundred Indian investors completed an online questionnaire from November 2021 to March 2022. Investors of various ages and occupations were carefully sampled marriage, income, and location. The respondents ranged in age from 18 to 70, with almost 60 per cent being male and earning 10,00,000–15,00,000 INR per year. 26 per cent were undergrads, 37 per cent were professionals, and 73 per cent were married. About 58 per cent utilized the internet, 67 per cent watched TV, and 33 per cent talked about COVID-19 with friends and relatives.

Evaluation of Investor Study

We had used 5 point scale to study the behavior of investors. The mean value of variables demonstrates their impact level on the behavior of investors.

TABLE 1

CRONBACH ALPHA RESULTS FOR FACTORS AFFECTING INVESTMENT BEHAVIOR

Variables	*Cronbach Alpha*
Fear	0.75
Volatility of Market	0.64
Risk Perception	0.61
Risk Propensity	0.73
Vaccination Update	0.77
Herding	0.63
Investment Decision Making	0.76

- Mean value < 2, variable has a low impact
- Mean value <3, average impact
- Mean value <4, high impact
- Mean value <5, very high impact

Results

Cronbach Alpha determines individual investor investment decision credibility in Table 1. The table provides investment behavior results from 400 respondents. Investment decision variables are tested for reliability. Variable has negligible impact if Mean Value < 1.

TABLE 2

IMPACT ON INVESTMENT DECISION DUE TO ANXIETY OF INVESTORS

Q. No.	Responses to Fear	Mean	Std. Devaition
D1	I am scared that value of my investments shall decrease	3.98	0.93
D2	I need to keep aside money for medical treatment instead of investment	3.71	0.67
D3	I don't think that our financial system can keep our investments safe	3.97	0.76
D4	My present savings are not sufficient to meet the cost of treatment of COVID	3.15	0.23

D5	According to me the government announced relief financial packages are not sufficient to bear cost of medical treatment of COVID	3.89	0.25

Table 2 reveals that the overall mean value is near about 3.75, which shows that the fear caused due to COVID -19 has high impact on investment behavior of investors.

TABLE 3

ANXIETY RELATED TO SHARE MARKET VOLATILITY REGARDING INVESTMENT DECISION MAKING

Q. No.	*Anxiety related to share market volatility*	*Mean*	*Std. Deviation*
MV1	I am worried about the high volatility of the market	3.91	0.46
MV2	I am worried that there will be a further decline in NIFTY indices	3.79	0.53
MV3	I check share value son a daily basis due to high volatility	3.89	0.52
MV4	I will sell my shares as they reach a stage of minimum loss	3.71	0.49
MV5	I am worried that the amount invested by me has gone beyond my expected loss during pandemic	3.70	0.41

Table3 depicts that anxiety prone behavior of investors regarding volatility in share market. The average mean value is arrived at around 3.3 which imply that investors behavior due to anxiety regarding share market volatility is high.

TABLE 4

IMPACT OF RISK PERCEPTION AS A VARIABLE ON DECISION MAKING OF INVESTORS

Q. No.	*Behaviour due to risk perception*	*Mean*	*Std. Deviation*
RP1	I consider the COVID-19 situation is a good opportunity for investment	3.45	0.51
RP2	I prefer to accept these kinds of (COVID-19) risk investments	3.45	0.65
RP3	I am willing to take risks in investmentsduring-COVID-19 situation	3.41	0.50
RP4	I may gain if I take greater risk during COVID -19	3.31	0.32
RP5	I am willing to take on more risks during the pandemic than my average investments	3.04	0.53

Table 4 examines how the risk perception affects investor behavior during COVID-19. Investors' risk perception moderated their investment activity, as the average mean value was 3.3.

TABLE 5

IMPACT OF RISK PROPENSITY AS A VARIABLE AFFECTING INVESTMENT DECISION

Q. No.	*Behavior due to risk propensity*	*Mean*	*Std. Deviation*
RT1	I avoid taking investment risks as COVID-19 has created a high-risk market situation	3.30	0.86
RT 2	I don't favor a high-risk investment such as that ofCOVID-19	3.30	0.75
RT3	I don't make low-risk investments as returns offered on them are also low	3.47	0.76
RT4	I don't prefer high risk investments even if they increase the amount I am able to save	3.50	0.62
RT5	I don't prefer to take current losses to be able to earn greater future returns	3.20	0.61

Table 5shows the impact of risk propensity of investors during COVID -19, and depicts the existence of moderate impact on behavior of investors with an average mean value of 3.36.

TABLE 6

IMPACT OF HERDING AS A VARIABLE AFFECTING INVESTMENT DECISION

Q. No.	*Impact of Herding Behavior*	*Mean*	*Std. Deviation*
HB 1	I follow strategies followed by other investors during COVID-19	3.38	0.72
HB 2	I take decision on my stock investments based on similar decisions taken by others	3.50	0.64

HB 3	My investment decisions areaffected by decision of others related to sale and purchase of stocks.	3.71	0.76
HB 4	I quickly react and follow investment decisions taken by others	3.77	0.48
HB 5	I generally take opinions from other investors before making my final investment decision	3.48	0.49

Table 6 examines pandemic-related investor herding. The averages mean value of 3.57 shows that herding moderates investment decisions.

TABLE 7
INVESTMENT DECISION MAKING DURING COVID-19

Q. No.	*Investment decision making*	*Mean*	*Std. Deviation*
ID 1	I am affected by fluctuations in the stock market due to COVID -19	2.73	0.83
ID 2	I have invested a large portion of my savings in the stockmarket	2.82	1.17
ID 3	I base my investment decisions on proactive measures taken by the companies duringCOVID-19	3.97	0.84
ID 4	I prefer financial security and hence I opt for low-risk investment alternatives	3.47	0.14
ID 5	There has been an increase in the revenue generated by my stocks during COVID-19 , but the stock values have decreased	3.97	0.17

COVID-19 investor decisions are shown in Table 7. Due to financial security, investors favored less risky investments during the pandemic and risk inclination and stock market volatility had less impact on their investment selections.

CONCLUSION

The study examines investors' COVID-19-related investment decisions. Six variables were examined: namely fear, stock market volatility anxiety, risk perception, risk inclination, herding behavior, and vaccination updates. Fear, risk perception, herding and vaccine updates influenced individual investors' pandemic-like investment decisions, although risk appetite and volatility related concern did not. During emergencies, investors favored safer investments.

Due to financial security, investors favored less risky investments during the pandemic

The study found individual and institutional investors invested throughout the pandemics. Investors should research global COVID news and vaccine updates before investing during pandemics. Since the study is limited to investor psychological behavior related to investment decision during the pandemic, it must be extended to gauge the impact of company-specific policies, Government response to pandemic-like situations, business activities during pandemic and stock market returns to have a comprehensive view of the factors affecting investor decisions and help them make sound investment decisions. This research report should improve the knowledge and benefit investors in pandemic-like conditions. MA

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DIGITAL AGRICULTURE INFRASTRUCTURES FOR FUTURE FARMING IN INDIA

Abstract

This study focuses on the adoption of digital agriculture infrastructure in India. Digital farming methods through information and communication technology can be a game changer in the rural economy. For doubling farmer's income by 2022, under this initiative, the Government of India introduced many programs and services with respect to digital agriculture. For example, Kisan Call Centres will provide free advice to farmers who have queries about agriculture and allied activities, many software and mobile applications were created to collect data on various topics, such as trade, market prices, crop diseases, soil types, seeds, pest control, etc. Under the ATMA scheme, the Government is conducting farmer fairs and exhibitions to spread awareness of agriculture technologies. Finally, digital agriculture infrastructure significantly influences farmers to improve their yield and production in the future.

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INTRODUCTION

The agriculture sector in India is adopting smart farming methods through technology and innovation, which can be a game changer in the economy. Moreover, smart farming can help integrate digital and physical infrastructure to benefit farmers. Smart farming involves the application of sensors and automated practices. It can monitor the agricultural land, temperature, soil moisture, etc. To achieve the doubling of farmer's Income by 2022, the Government of India started the Kisan Train aimed to enable speed transportation of perishable and agricultural commodities, including meat, poultry, fisheries, and dairy products, this train carries the surplus area to consumption areas. This service reduces food waste and decentralization of the agriculture trade. The Government created many agriculture-related applications and software for farmers (Table 1). The comprehensive information communication technology plan has reached farmers in simple and improved ways to increase agricultural efficiency, as evidenced by the implementation of the Kisan Drone programme for crop aid, land record, and pesticide spraying in the 2022–23 budget address.Digital agriculture refers to using information and communication technologies and data management systems to enable the development of authentic content and provide timely, targeted information and services to farmers and other agriculture stakeholders to convert farming into a profitable business.In 2022–2023, the Government spent Rs. 30.1 crores on agriculture research, extension and education (Table.3). The Agriculture Technology Management Agency (ATMA) program educates farmers about agricultural technology by conducting training, farmer fairs, and exhibitions (Table.4). The study objectives are to review the farmer's behaviour and participation in the digital agriculture infrastructure and examine the Government's involvement in developing digital agriculture facilities for the framer's welfare.

MATERIALS AND METHOD

In order to achieve the study objectives, we concentrate on secondary data sources from State and Union Governments' annual reports, like the Department of Agriculture and Farmers Welfare, reports from the Indian Economic Survey, the indiastat database, and reports from the Doubling of Farmers Income Commission. This study used straight forward analytical tools like tabulation, graphing, and quantitative data analysis because the government has implemented numerous digital agriculture infrastructures. We attempt to explain how farmers participate and utilize digital infrastructure facilities effectively.

RESULTS AND DISCUSSION

Government Initiative on Digital Agriculture facilities.

The National e-Governance Plan in Agriculture (NeGP-A), a project started by the Indian Government, intends to create ICT-based national agricultural service portals in India so that farmers and other system participants may obtain timely agricultural information.

TABLE 1.

DETAILS ON MAJOR NATIONAL LEVEL APPLICATIONS AND PORTALS UNDER DIGITAL AGRICULTURE

SL. No	Name of the Apps	Purpose	Benefits to the farmers/officers
1	KISAN SUVIDHA	This App was developed to help farmers by providing information about agricultural activities.	Farmers may access data on market pricing, agriculture advisories, plant protection, IPM protection, market price of the product in the closest region, and the maximum price in the state and nationwide. This App mostly delivers weather information for the next five days and the present weather. As of December 2020, there have been 13,69,263 downloads.
2	PUSA KRISHI	This App helps build a strong connection between the research sector and outside the world.	Technological development and commercialization help agricultural businesses for everyone, from cooperatives to individual farmers.
3	KISAN MASIK ANDROID App	It is the most popular monthly magazine and provides information about agricultural activities.	The Shetkari Magazine Android app offers an easy-to-use interface and requires mobile Internet or Wi-Fi access in order to sign up and download the latest issues. The magazine may be downloaded, then read without an internet connection.
4	BHUVAN HAILSTROM App	It was created to record and assess agricultural damage brought on by hailstorms and other natural calamities.	The agricultural officer may visit the field with a mobile device or tablet that has an app that can take the following measures, including a photograph of the field with latitude and longitude, Name of the crop, date of planting, date of likes harvesting, and sources of irrigation. In addition, it captures information that will be immediately plotted on the Bhuvan website, making analysis simple.
5	AGRIMARKET	This App is helpful to farmers to get the market price within a 50 km distance from the user location.	With the use of mobile GPS, the Agrimarket App is able to detect a user's position and retrieve the current crop prices in marketplaces up to 50 km away. If a person wants not to utilize GPS location, there is another way to obtain the price of any market and crop.
8	mKisan	Farmers can make well-informed decisions on the selection of seed varieties and time of sowing, harvesting, etc., by using weather-related information such as temperature, the possibility of rainfall, etc.	They can make educated selections to sell products at the proper price and timing using a simple mobile telephone. It assists in lowering farmer distress sales brought on by changes in market supply. 5.2 billion farmers, professionals, and scientists from various departments are enrolled. Since mkisan launch in 2013, more than 2426 billion SMSs have been issued over the platform. This App frequently provides farmers with information in 12 regional languages.

e-NAM

The National Agriculture Market programme was introduced by the Indian Government in 2016 with the aim of developing an online transportation competitive bidding system to help farmers get a fair price for their crops. The Government offers free software and financial support of Rs. 75 lakhs each piece of APMC mandi-related hardware under the e-NAM programme including quality assigning, grading, sorting, packing, composite unit, etc. Table.2 shows that as of June 2022, 1000 mandies in 18 states and 3 Union Territories have been integrated with e-NAM platform.1,73,41,852 framers registered under this platform, at the same time, 2,26,139 trades were involved in the e-NAM portal, and Rs.2,04,949.00 crore trade transactions happened this period.

TABLE 2.

SELECTED STATE-WISE NUMBER OF MANDIS INTEGRATED, FARMERS/TRADERS REGISTERED, AND TOTAL TRADE VALUE ON E-NAM PLATFORM IN INDIA AS ON JUNE 2022

(Rs. in Crore)

SL. No	States/UTs	No of Mandis (APMC) Integrated	No. of Farmers Registered	No. of Traders Registered	Total Trade Value
1	Andhra Pradesh	33	14,44,989	3,478	30,890.00
2	Chandigarh	1	7,106.00	114	472.00
3	Chhattisgarh	14	1,35,251	3,125	1,595.00
4	Gujarat	122	8,68,911	9,401	5,793.00
5	Haryana	81	27,25,240	14,424	62,757.00
6	Himachal Pradesh	19	1,24,417	2,010	1,031.00
7	Jammu & Kashmir	2	944	121	2.00
8	Jharkhand	19	2,46,637	2,299	37.00
9	Karnataka	2	1,453	655	684.00
10	Kerala	6	2,728	346	1.00
11	Madhya Pradesh	80	30,21,934	22,337	16,486.00
12	Maharashtra	118	12,16,445	21,510	9,187.00
13	Odisha	41	2,79,393	7,393	1,540.00
14	Puducherry	2	13,529	180	112.00
15	Punjab	37	2,17,429	2,589	9,093.00
16	Rajasthan	144	15,00,477	82,359	38,794.00
17	Tamil Nadu	63	3,07,714	4,358	1,505.00
18	Telangana	57	18,23,782	5,799	16,661.00
19	Uttar Pradesh	125	33,00,715	35,029	7,894.00
20	Uttarakhand	16	54,305	4,728	357.00
21	West Bengal	18.	48,453	3,884	58.00
22	**India**	**1,000**	**1,73,41,852**	**2,26,139**	**2,04,949.00**

Source: indiastat.com & Department of Agriculture and Framer welfare

Kisan Call Center

The toll-free Number is 1800-180-1551. The Ministry of Agriculture launched Kisan Call Centers on January 21st 2004, main aim of the project was to answer farmer's queries to free assistance with any queries related topest control in crops, soil science, market information, market price, weather, etc. through telephone calls in their language. All these call centers work in 22 local languages in more than 14 locations. These call centers are available from 6 am to 10 pm on all seven days of the week at each KCC location (Ministry of Agriculture & Farmers Welfare). As in Figure1 the performance of Kisan Call Centre services has seen identical variations. In 2022, a total of 42,06,150 calls were successfully answered. In other words, out of 56,94,641 calls 75 calls were sent to specialists. This trend indicates the interest Indian farmers have in digital infrastructure services.

FIG. 1,

NUMBER OF KISAN CALLS RECEIVED IN KCC, ACROSS INDIA, FROM 2014 TO 2022.

Source: Indiastat.Com & Department Of Agriculture And Framer Welfare

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Research and Extension

The fast shift in agriculture growth in India has been met with outstanding success through research and extension in the agricultural field. India must increase its public spending on agricultural training, education, and research. The Union Government encourages researchers and scientists to engage in innovation-related activities.[Table 3] In 2022–2023 and 2023–2024, respectively, Rs. 8151.94 crores and Rs. 8941.93 crores were spent on research, extension, and education. 885 agriculture startups received training from institutions and universities specializing in agriculture, and 286 agriculture startups received funding from the Indian Government for a total sanctioned amount of Rs. 30.1 crores.

TABLE 3.

NUMBER OF AGRI STARTUPS TRAINED, FUNDED, AND GRANTS SANCTIONED UNDER SCHEMES OF MINISTRY OF AGRICULTURE AND FARMERS WELFARE IN INDIA AS ON 18.07.2022

Particulars	No. of Agri Startups Trained	No. of Agri Startups Funded	Grants Sanctioned (Rs. in Crore)
National Institute of Agricultural Extension Management (MANAGE)	289	106	10.72
Acharya N. G. Ranga Agricultural University, Andhra Pradesh (ANGRAU)	130	24	2.88
Kerala Agricultural University, Trissur, Kerala (KAU).	128	49	6.31
Indian Institute of Millets Research, Telangana (ICAR-IIMR)	211	66	6.32
Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu.	127	41	3.87
Total	**885**	**286**	**30.1**

Source: indiastat.com & Department of Agriculture and Framer welfare.

Agriculture Technology Management Agency (ATMA)

Through institutional provisions for adopting technology in the form of an Agriculture Technology Management Agency (ATMA) district level to operationalize extension reforms, this program, established in 2005–2006, aims to make the extension system farmer-led and accountable. ATMA is a national initiative now being implemented in 614 Districts, 28 States, and 3 Union Territories. It involves actively engaging farmers and farmer's organizations, NGOs, Krishi Vigyana Kendras, Panchayat Raj institutions and other stakeholder groups.Table.4 shows in contrast to 2020-21, when only 8,828 exhibitions and farm fairs were organized, and a total of 8,63,769 farmers successfully participated in this initiative, in 2018–19, there were 309 farmers fairs, and 14,77,552 farmers participated. However, in 2019–20, the number of organizers and participants decreased slightly due to the Covid–19 pandemic.

TABLE 4.
EXHIBITIONS/FARMERS FAIRS ORGANIZED AND PARTICIPANTS BY AGRICULTURE TECHNOLOGY MANAGEMENT AGENCIES (ATMA) FROM 2018 TO 2020.

State	2018-19		2019-20		2020-21	
	Exhibitions/ Farmers Fairs Organized	No. of Participants	Exhibitions/ Farmers Fairs Organized	No. of Participants	Exhibitions/ Farmers Fairs Organized	No. of Participants
Karnataka	309	90,181	402	78,935	397	40,781
India	13,427	14,77,552	8,461	11,94,844	8,828	8,63,769

Source: indiastat.com & Department of Agriculture and Framer welfare.

CONCLUSION

Indian agriculture today strongly emphasizes the use of artificial intelligence and many Mobile applications and agriculture web portals; these digital infrastructures positively influence farmers' welfare and agriculture development. Also, farmers become decision-makers in their firms and are part of the digital world. Several projects and schemes are consequently implemented in this area to achieve the initiative of doubling farmers' income.Still in rural area farmers are unable to get information about agricultural operations properly due to the internet and tele network problems.According to the Ministry of Communication, Govt of India the tele density is 57.98 and the urban area is 135.23 per 100 inhabitants, which shows the status of the rural area. The Government prioritizes developing communications technology in rural areas. MA

Government of India started the Kisan Train aimed to enable speed transportation of perishable and agricultural commodities

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GREEN TECHNOLOGY
A STEP TOWARDS GREEN ECONOMY

Abstract

Green technology is a term which is used to describe the use of those technologies and science which normally goes on to reduce the human impacts on the natural environment.

Green technologies are normally used to describe those technologies whose use will basically be intended to reverse the ill effects of human activities on the environment for the overall long term sustainable development of the entire planet.

In this article we will study the importance of green technologies in the 21st Century and how we can introduce more and more green technologies to protect the current and the future generations from the environmental hazards.

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INTRODUCTION:

Green tech can be referred to as an abbreviation of green technology. Green technologies are those technologies which can be considered as environmentally friendly based on their production procedures and processes or their supply chain procedures.

HISTORY OF GREEN TECHNOLOGY

Now-a-days green technology has become an important element of every daylife and these practices have actually been in use since the days of industrial revolution.

From the starting of the 19th Century various scientists throughout the world started to observe the ecological ill effects of the then coal-burning industrial plants and accordingly started guiding the then industrialists or the manufacturers to alter their production process and procedures to produce lower amounts of soots or byproducts.

SOME CHARECTARISTICS OF GREEN TECHNOLOGIES

Some of the basic charectaristics of green technologies are as follows:

1. Green technologies are basically those technologies that go to reduce the harmful effects of human activities on the nature and environment of the planet earth and refer to a wide area of scientific researches which may include sectors like atmospheric science, agricultural science, energy, material science, etc.
2. In the modern world there are many green technologies which actually go to reduce the emissions of carbon dioxide into the environment to protect and prevent the environment degradation and climate change.

GOALS OF GREEN TECHNOLOGY

The basic goals of the modern day's green technologies are to protect the environment from degradation and repair the damages done to the environment and conserve the earth's natural resources for the current and the future generations.

DIFFERENT TYPES OF GREEN TECHNOLOGY

Carbon Capture

Currently the carbon capture technology refers to a group of experimental technologies that go to remove the effects of greenhouse gasses from the environment either from the point of combustion or from the atmoshphere.

Alternative Energy

Now-a-days many business houses are trying to utilise alternative sources of energy that do not generate atmospheric carbon and in this regard it has been observed that solar and wind power have been the most inexpensive sources of energy.

Electric Vehicles

According to the studies of the Environmental Protection Agencies , most of the United State's greenhouse gas emissions are by the activities of the various types of transports and so many modern manufacturers are now trying to find out better automobile designs which can be regarded as fuel-efficient engines or are trying to shift towards electrical power.

Sustainable Agriculture

This is an area where there are many opportunities for applications of green technologies like organic farming techniques which can go on to reduce the damage caused due to soil-exhaustion, innovations in cattle feed which can go to reduce the methane emissions in the environment.

Recycling

Recycling is a technique which goes to conserve the scarce resources by finding their sustainable substitutes or by re-using them and can also be used to recover expensive raw materials from e-waste or automobile parts.

Renewal Energy

Renewal energy can be considered as another type of green technology and is a type of energy which is actually derived from natural sources and replenished at a higher rate than it is consumed.

IMPACT OF GREEN TECHNOLOGIES ON THE ECONOMY

The impact of adoption and implementation of green technologies on the economies of the various countries of the world can be seen from the improvement in human health, increase in life spans of the human beings which in turn actually goes on to improve the overall economic productivity of a country or the world as a whole.

> **The basic goals of the modern day's green technologies are to protect the environment from degradation and repair the damages done to the environment**

OBJECTIVE OF THE STUDY

The main objective of this study is to find out the efficacy or the impact of adoption and implementation of the modern day green technologies in different countries or societies of the world.

LITERATURE REVIEW

1. *Bret Relander* in his report, "Investing in Green Technology", stated that green tech is a group of technologies that seek to reduce or eliminate the negative impacts of human activity on the natural environment and can include anything from exploring new clean and renewable sources of energy to pioneering new and clean materials and finding ways to recycle waste and used materials.

RESEARCH METHODOLOGY

This study has been exploratory, casual and empirical in nature and the data needed for such research work has been collected through both direct and indirect methods of collection of primary and secondly data.

Direct Method

Primary data has been collected by two stage sampling technique during field visit by personal interview through a structured questionnaire of randomly selected respondents who are either service holders or are engaged in various profession al practices, businesses or have other means of earning livelihood and are ordinary residents of Kolkata city.

Indirect Method

Books, newspapers, magazines, journals, websites, edited volumes, working papers, e-books and other reports were consulted to gather information related to our study.

The data obtained from both the primary and secondary sources were examined and analysed thoroughly and the results of the analysis are presented below.

FINDINGS

Difference between Green Technologies and old / Traditional Technologies

The basic advantage of green technologies in comparison to the old /traditional technologies is that they go to help in improving the quality of life by reducing the adverse impact on the environment.

Benefits of Green Technology

Green technology basically refers to a wide range of technologies and practices which can be used to minimise the bad impacts of various types of activities on the environment and goes a long way in helping to reduce the energy and water consumption, reduce waste, reduce carbon emissions and improve the business efficiency by lowering the costs and improving the product design and in the process creates new jobs which in turn increases the standard of living.

The basic benefits of introducing green technologies can be in the form of environmental benefits, economical benefits and social benefits which ultimately leads to sustainable development .

Environmental Benefits: Introduction of green technologies like renewable energy, reduced energy consumption, reduced use of raw materials or recycling of waste product go to achieve environmental sustainability and make the production and design processes much more efficient.

Economic Benefits: Normally the economic benefits of introducing green technologies are availed through improved efficiencies in the form of proper usage of resources like energy, raw materials, etc, alongwith better manufacturing processes which go to provide better competitive advantages to the products and services.

Social Benefits: Introduction of green technologies also goes to help the society at large by improving the overall environmental conditions alongwith creating various new types of employment opportunities which in turn improves the overall standard of living.

Some other Benefits of Introducing Green Technologies

1. ***Reduces Energy Consumption***: The most important advantage of introducing green technologies is that it helps in proper usage of energies and reduce energy wastage in various stages of a product lifestyle.
2. ***Improves Product Design and Performances***: The increased general awareness among the persons about the environmental problems and sustainable development thereon alongwith greater competition in the market led the modern generations to provide more attention towards efficient and sustainable designs to create more eco-friendly products which will go on to improve the product performance from improved manufacturing processes and better product mix.
3. ***Reduces Business Expenses:*** Although in many cases while the procurement cost of green technologies are higher than the traditional technologies, their competitive advantages in the long run is always much more than the traditional technologies.
4. ***Reduces waste production***: Another important benefit of introducing green technologies is reduction of waste with the help of recycling technologies which helps to recover raw materials which can be used to create new products.
5. ***Reduces Water Consumption:*** Another important benefit of green technologies is that it helps in reducing the consumption of water which can be considered as one of the most precious resources of our planet. In this regard we see that the modern day's engineers are always trying to produce some improved version of Industrial machinery to reduce the level of water consumption as this is needed not only for the preservation of the environment but also from the cost angle and a machine which uses less water, less energy and requires less maintenance is not only more eco-friendly but also cheaper for the business purposes in the long run.
6. ***Reduces Air pollution:*** Green technologies and electric vehicles are getting more importance in most cities of the modern societies to reduce the levels of air pollution.
7. ***Reducing Carbon Footprint:*** Reducing the carbon footprint is a very big challenge in the modern world and therefore many new types of green technologies like carbon capture or storage of bio gas have been developed.
8. ***Facilitates Eco-Friendly Agriculture:*** Many countries are now trying to introduce more and more green technologies to benefit agriculture in introducing more eco-friendly ways to grow food.
9. ***New Employment Opportunities:*** Introduction of newer types of green technologies in various sectors has increased the demand for expert personnel to operate the new technologies which in turn has increased the employment opportunities in the society.

DISADVANTAGES OF GREEN TECHNOLOGY

Some of the disadvantages of green technologies are the following :

1. In most of the countries, government policies regarding implementation and use of green technology based systems have not been finalised.
2. Initial investment or the implementation cost of green technology is still very high.
3. People are still not familiar with the modern methods of green technologies and at present there is a dearth of skilled personnel to operate the modern green technologies.

SUGGESTIONS

A particular organisation's choice of adopting a specific green technology is actually a complex decision process and is dependent on many factors which may include specific business interests, specific business orientations alongwith other relevant operational circumstances and systematic collaborations among various components, attributes, capacities and technical characteristics.

Therefore it is always better to try and have a clear picture about the possible difficulties and obstacles which implementation of a specific new technology may give rise to, before the actual process of implementation of the new technology so that proper measures can be taken to avoid failures and have smooth adoption of the new forms of technologies.

FUTURE OF GREEN TECHNOLOGY

All the environmental damage which the human beings have caused in the past should be a wake-up call for everyone and they should feel that this planet is our only home and that we must do whatever is needed to protect it from degradation.

Various environmental issues like shortage of energy, global warming, rising urban population, pollution, soil degradation, deforestation and other environmental issues make individuals, companies and countries to foresee the future and see how adopting greener technologies can help in changing the world.

The future of any green technology greatly depends on the way a business or aorganisation learns to invent, develop and apply different types of new processes to the products and the materials which in turn go to play a huge role in helping us in reducing and eliminating the generation and use of hazardous materials and substances.

GREEN ECONOMY

In a green economy, growth is basically through investment in economic activities which normally allows reduced carbon emissions, reduced pollution, prevention of loss of biodiversity etc.

CONCLUSION

Introduction of various types of green technologies is helping people to conserve energy, use renewable resources, reduce pollution and protect the environment from degradation for the overall development of the planet earth. Adopting green technologies is a step towards achieving green economies. MA

REFERENCE

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NOTES FOR AUTHORS

Referencing is a crucial aspect of writing a journal article to avoid plagiarism. 'Plagiarism' refers to the act of using someone else's work or ideas without giving proper credit to the original source. To avoid plagiarism in your writing, you must properly reference all the sources that you use in your research.

- **Choose a referencing style:** There are many different referencing styles, such as APA, MLA, Chicago, and Harvard, each with its own specific format and rules. Choose the style that is most appropriate for your field and stick to it consistently throughout your paper.
- **Cite your sources:** Cite the sources of information you use in your text by giving the author's name, publication date, and page number(s) for direct quotes or paraphrased material.
- **Use a reference list:** At the end of your paper, include a reference list that lists all the sources you have used in alphabetical order. This will give your readers a complete list of the sources you consulted in your research.
- **Be accurate:** Ensure that the information you provide in your references is accurate and complete. This includes the author's name, publication date, title, and source of the information.
- **Paraphrase carefully:** When paraphrasing, make sure to put the information into your own words, but still give proper credit to the original source.

By following these tips, you can effectively reference your sources in your journal article and avoid plagiarism. Remember that proper referencing is not only important for avoiding plagiarism, but it also helps to support your arguments and show the depth of your research.

INDIA'S RENEWABLE ENERGY PREPAREDNESS: ASSESSING THE VIABILITY OF BIOETHANOL AS A KEY ELEMENT IN THE GREEN ENERGY TRANSITION

Abstract

The transition to green energy is vital to combat the severe concerns of global warming caused by the increased use of fossil fuels. The Paris Accords (COP-21) have set legal bindings and goals to reduce CO2 emissions to combat climate change. Bioethanol is the most feasible renewable energy technology to combat climate change. This study provides an overview of the readiness of India to implement policies for promoting the production and blending of bioethanol as renewable energy from sugarcane molasses and non-edible waste oils. The Indian Government has made significant efforts to channel biofuels into power and could serve as a landmark for energy preparedness for emerging nations. Establishing a renewable energy framework that focuses on conservation policies, efficiency, and strengthening energy is crucial. This study highlights the importance of being ready for the green energy transition and the potentials of bioethanol as a sustainable energy source.

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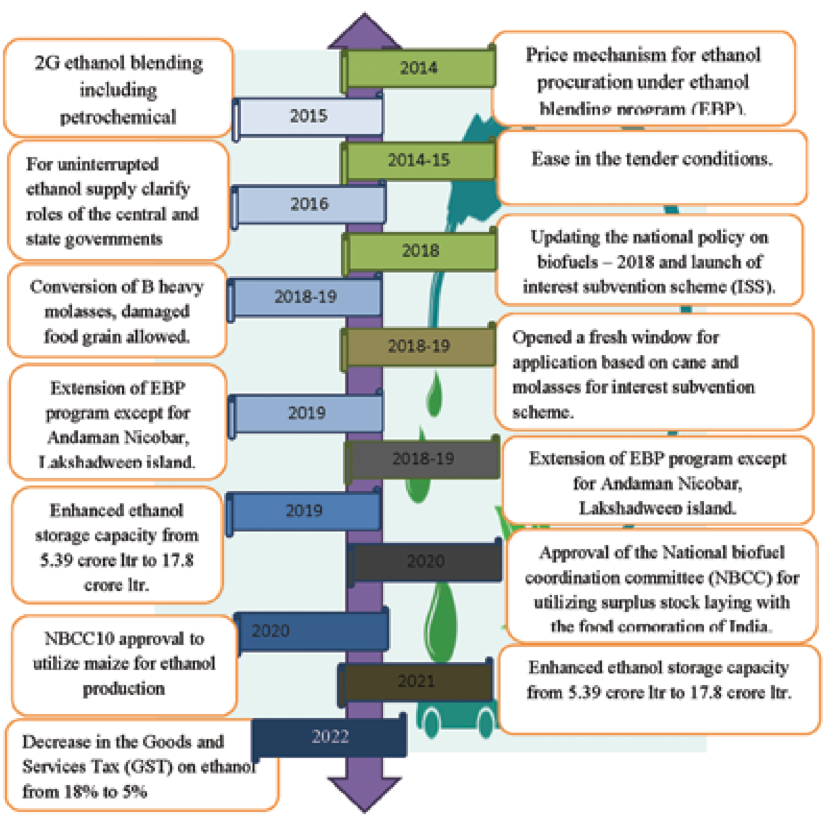
INTRODUCTION

In the modern era, energy crises pose a big challenge to meet the demand of the rising population with the depletion of global energy fossil resources, resulting in carbon emission as the biggest problem with adverse effects in increasing global warming and climate change. In 1992, the Rio de Janeiro Earth Summit witnessed 178 countries endorsing "Agenda 21" to address health, education, inequality, energy, economic development, climate change control and conservation of our seas and forests (*Kakran et al.,* 2023). The United Nations Department of Economic and Social Affairs (UNDESA) established 17 sustainable development goals (SDGs) in 2015, focusing on environmental stewardship to ensure global peace and prosperity, with the support of 195 countries worldwide (UNDP, 2023).The Inter-governmental Panel on Climate Change (IPCC) has declared global warming to be undeniable, with temperatures 0.85 degrees Celsius higher than those recorded since the baseline of 1880. If the current emission patterns persist, the Earth will become warmer by 3.7 to 4.8 degrees Celsius by the year 2100. Regardless of all future GHG estimates, surface temperatures worldwide are predicted to rise, accompanied by more frequent heat waves, excessive rainfall, ocean acidification and an increase in global sea levels (IPCC, 2014). Fossil fuel combustion also emits significant quantities of polluting gases, including nitrogen oxide, carbon monoxide, volatile organic compounds (VOCs) and particulate matter fractions. The interactions of VOCs and NOx with sunlight produce tropospheric ozone (O3), the primary component of photochemical smog. These gaseous air pollutants have exacerbated health and agricultural production issues.

Renewable energy is the ultimate channel to overcome the above issues, where bioethanol is the most reactive source as an alternative to petroleum. According to current evidence, biofuels provide a variety of societal advantages, such as energy security, pollution reduction and long-term economic growth (*Raihan and Tuspekova,* 2022; *Nisha,* 2023; *Dar et al*., 2022). To ensure a low-carbon future, it is imperative to improve our understanding and application of energy efficiency, mobility, efficient utilization of organic resources, and sustainable practices. It is critical to increasing awareness and knowledge in these areas to equip ourselves with the necessary tools and strategies to mitigate climate change and reduce our carbon footprint. This study is a novelty as it focuses on the current scenario in India's context for implementing bioethanol policies and subsidies. The results of this study favor bioethanol in the context of India, as with the lapse of time, Indian energy demand would shift following the ethanol blending program (EBP).

ETHANOL POLICIES IN INDIA

FIG. 1 PROGRESS OF INDIAN ETHANOL BLENDING PROGRAM



In 1980, India launched its ethanol program with trials conducted by the Indian Oil Corporation. Limited (IOCL) on 15 passenger cars and 21 two- to three-wheelers using blends of 10 per cent and 20 per cent anhydrous ethanol. Detailed information regarding the trials is provided in Table 1.

The "Roadmap for Ethanol Blending in India 2020-25" sets out an yearly plan to boost domestic ethanol production by the updated National Policy on Biofuels (2018) and EBP, which aims to achieve a 20 per cent ethanol in petrol (E20) mix by 2025/26 (Fig. 1).

The above road map also regulated the price of ethanol production from different sources (Fig.2).

The milestones of the proposed road map are the following:

- Boost India's ethanol production volume from 700 to 1500 million liters.
- By April 2022, E10 petrol will be gradually introduced.
- E20 will roll out gradually preliminary in April 2023 and entirely by April 2025.
- Automobiles with E10 engine upgrades and E20 material compliance will be offered from April 2023.
- E20 engine-powered vehicle manufacture will start in April 2025.
- Encourage the production of ethanol from crops that conserve water, like maize.
- Promote the creation of technologies that produce ethanol from non-food feedstock.
- The Government of India (GOI) announced in 2019 a 'Long Term Ethanol Procurement Policy' under the EBP.

EBP expanded from 38 crore liters in 2013-14 to 173 crore liters in 2019-20, increasing the blend percentage from 1.53 to 5 per cent Ethanol supply for the current ESY (2020-21) has increased by 91oer cent to 332 crore liters (2019-20) (Fig. 2). Due to changes in policies, different percentage of blending trends and ethanol supplied quantity identified (Fig. 3).

FIG. 2: ETHANOL PRODUCTION PRICE FROM DIFFERENT SOURCES.

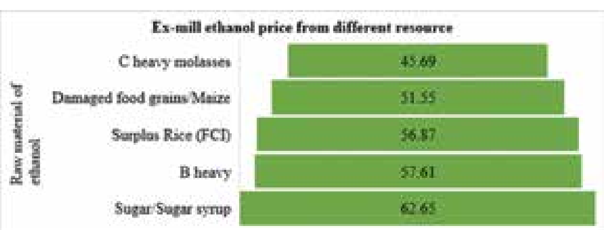


FIG.3: PERCENTAGE OF BLENDING TRENDS AND ETHANOL SUPPLIED QUANTITY

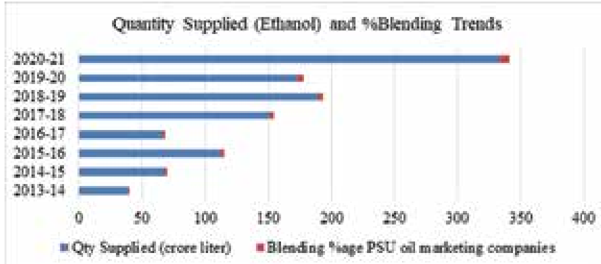


TABLE:1 SUMMARY OF THE INDIAN ETHANOL POLICIES.

Period	Policies
1980	The Indian Oil Corporation tests 10 per cent and 20 per cent anhydrous ethanol blends in 15 passenger cars and 21 two- and three-wheelers.
2000	Three Projects to examine appropriate features of blending ethanol with petrol by the Ministry of Petroleum and Natural Gas.
2002	Govt. of India exempted excise duty (up to Rs. 0.75) and directed the blending of 5 per cent ethanol in nine (four) States (Union Territories).
2003	To expand the current ethanol and gasoline blending program, the National Auto Fuel Policy provisionally commends the commercialization of biofuel vehicles.
2004	The Indian Government has been forced to halt the mandatory blending of ethanol in gasoline due to issues with the supply of molasses as a feedstock.
2005	The production of sugar and molasses has increased, which has rekindled interest in the ethanol program. The Government sets the price at Rs 18.25 per liter for oil companies to purchase ethanol.
2006	The Government has unveiled a new policy aimed at purchasing biodiesel, which has been priced at Rs 25 per liter for oil companies. The plan is to increase the biodiesel blend from the current 5 per cent to 20 per cent initially.
2007	The National Biofuels Draft Policy proposes - utilization of locally available bio-crops to create biofuels. -creation of a National Biofuels Development Boardand -modification of the proposed objectives for blending 5 per cent and 10 per cent biodiesel by 2012 and 2017, respectively.
2009	A national biofuel policy was drafted in India to promote biofuels
2013	When EBP was introduced, oil firms were required to offer gasoline blended with at least 5 per cent ethanol. The Government started making large expenditures on blending and storage facilities.

2014	The EBP program has brought back the controlled price system for the purchase of ethanol, commanded Oil PSEs to build bio-refineries, opening a new route for ethanol production (2nd Generation, incorporating petrochemicals).
2015	There are streamlined procedures for submitting numerous EOIs, transportation slabs, and tariffs.
2016	The IDR Act was modified on May 14, 2016, to specify the responsibilities of the Central and State Governments in the continuous supply of ethanol for use in the EBP program.
2017	Participation of several stakeholders
2018	The 2018 National Policy on Biofuel (NPB) establishes a target of 20 per cent ethanol blend in gasoline by 2030. Oil Marketing Companies (OMCs) are mandated to purchase ethanol produced from various sources i.e. sugar, C heavy molasses, damaged grains unsuitable for human consumption, B heavy molasses, surplus grains, sugarcane juice, sugar syrup, and waste fruits and vegetables, as determined by the National Biofuel Coordination Committee (NBCC) within the framework of NPB-2018.

GOVERNMENT SUBSIDIES FOR PROMOTING ETHANOL IN INDIA

The Pradhan Mantri JI-VAN Yojana (PMJIVY) was launched in 2019 to promote the production of biofuels, including ethanol. It provided financial support (50 per cent of the project cost subsidized) to farmers and entrepreneurs to establish ethanol plants and produce biofuels.The initiative provided viability gap funding for 12 commercial and ten demonstration-scale second-generation (2G) ethanol projects, with a total investment of Rs 1969.50 crore from 2018–19 to 2023–24. The funding supported integrated bioethanol projects that utilize lignocellulosic biomass and other renewable feedstock.The breakdown of Rs.1969.50 crores is as follows:

a. Rs.1800 crore will be used to assist 12 commercial initiatives.
b. Rs.150 crores for the funding of 10 pilot projects.
c. Rs.19.50 crore in administrative costs paid to the Center for High Technology (CHT).

The Government is offering financial assistance to banks by providing interest subvention on loans extended for five years, which includes a one-year moratorium. The rate of interest is set at 6 per cent per year or 50 per cent of the interest rate paid by banks, whichever is lower. The Government has set a target of blending fuel-grade ethanol with petrol at a rate of 10 per cent by 2022 and 20 per cent by 2025 to increase the agricultural economy, decrease depenmdence on imported fossil fuel, save foreign currency on account of the import cost for crude oil, and reduce air pollution.

Ethanol is environment-friendly and can combat fossil fuels for controlling climate change

CONCLUSION

Ethanol is environment-friendly and can combat fossil fuels for controlling climate change.The GOI has implemented a variety of policy efforts over the past few decades to boost national biofuel production and use. India promotes ethanol production with crops that conserve water. Gasoline and diesel are commonly used as transportation fuels along with two biofuels, namely ethanol and biodiesel. Utilizing agricultural leftovers (considered as having FCI) that are currently discarded or underutilized could be the most significant and economical resource to fulfill the entire demand for biomass for generating biofuels, provided the conversion technology is available and cost-effective. Biofuels don't include Sulphur since they are made entirely from biomass and having an oxygen concentration improves the efficiency of ignition engines' combustion and lowers pollution. For India's energy security, ethanol is capable of replacing fossils and it is found that government steps also encourage its energy usage. MA

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EMPOWERING SMART CITY GOVERNANCE: ROLE OF QUALITY VARIABLES IN e-GOVERNANCE

Abstract

This write up examines the factors that influence the success of a smart government information system in a smart city in India. The researchers investigated the impact of the four quality variables, namely information quality, systems quality, service quality, and economic quality, on the users` perception of usefulness and satisfaction regarding online building plan sanctioning platform in a modern Indian city. The results indicate that amongst the users who are the empanelled architects of the concerned urban local body, service quality and economic quality have a significant impact on the perceived usefulness of the application and that systems quality, service quality, and economic quality have a substantial impact on user satisfaction.

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INTRODUCTION

Riding on the surge of information technology the world is changing rapidly and so is India. One of the ways the information technology is used is in smart government services. As technology has become part of everyday life, one of the most pressing issues facing academics and policymakers is how to design, use, and apply information systems effectively to urban life in modern smart cities. This is particularly difficult in a country like India, where the digital divide might worsen an already existing substantial socioeconomic disparity. Hence a comprehensive and inclusive strategy is vital to establish a quality framework and ensure that all social groups utilize e-resources appropriately.

LITERATURE REVIEW

There isn't a single definition for "smart cities" but in general, the term "smart city" refers to a community that uses ICT and related technologies to improve the quality of services given to urban residents and the efficiency of routine Government operations. In this aspect, the Government and related institutions, such as Municipalities, play a key role.

Smart City Governance

A smart city administration employs a smart governance paradigm to enact appropriate policies to realize the smart city's objectives, thus making smart governance an essential part of the smart city development process. *Kirimtat et al.* (2020) did a thorough examination of the literature on all topics related to smart cities and discovered that "Citizen," out of all the terms, had the most linkages and occurrences and that "smart governance," out of all the significant topics in the research, was the one that stood out the most (*Kirimtat et al*., 2020). *Rana et al.* (2019) have compiled a list and prioritized the obstacles that prevent or hinder implementing smart cities in the Indian setting (*Rana et al.,* 2019). Governance was the most significant obstacle.

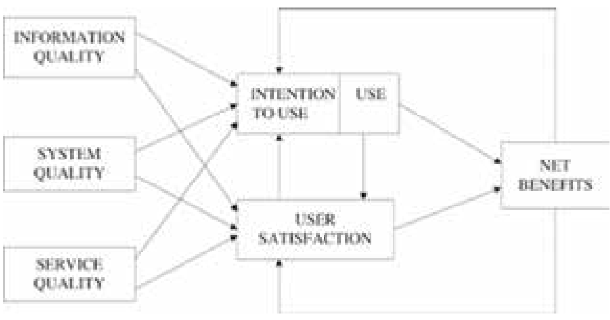
Smart governance is hence the cornerstone of a smart city initiative.

Delone & Mc Lean Model of Information System (IS) Success

In the context of our study the D & M Model of IS Success becomes relevant. *Delone* and *McLean* (1992) formulated an information systems success model and proposed six relevant IS variables to this effect: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. In their decadal update, they made modifications to their original model and postulated an upgraded structure for the effective implementation of a successful information system, wherein in addition to the two previous qualities, i.e. system and information qualities, they introduced "quality of service" as an information system`s crucial aspect (*Delone* and *McLean*, 2003).

FIGURE 1

DELONE AND MCLEAN MODEL OF I.S. SUCCESS



Economic Quality

The general setting of the study and the issue of digital divide prompted us to examine the effects of an e-government information system's economic quality on the system's performance. Quality economics emphasizes that quality must conform to an economic viewpoint, to achieve the optimal balance between quality and economy and maximize economic gains (*Lu & Li,* 2018). *Mirriam* defines 'economical' as precise, efficient and sensible use of resources to minimize waste and increase savings. Economic quality means the benefits that an information system provides in terms of cost savings, revenue generation, or other financial gains.

We believe that economic quality is an essential quality variable in any IS success model and that it is closely linked to other dimensions of IS success like information quality, service quality and system quality.

In our study we have segregated the metrics of cost savings and time savings into a separate quality construct namely economic quality. This study optimized economic quality in terms of time costs savings and economic costs savings (*Osman et al*., 2014)

Perceived Usefulness

Perceived usefulness measures the user›s subjective beliefs about the usefulness of the system. It is a crucial aspect in determining the acceptability and effectiveness of an information system. The concept of perceived usefulness according to *Davis's* (1989) Technology Acceptance Model (TAM)is : "the degree to which a person thinks that using a given technology would enhance his or her job performance" (*Davis,* 1989). As shown by a number of studies, perceived usefulness is a good predictor of users' desire to use an information system. Furthermore, perceived usefulness has also been found to be a vital aspect in determining the actual usage of an information system. Perceived usefulness plays a crucial role in the success of e-governance information systems, which are developed to offer digital services to individuals and organizations.

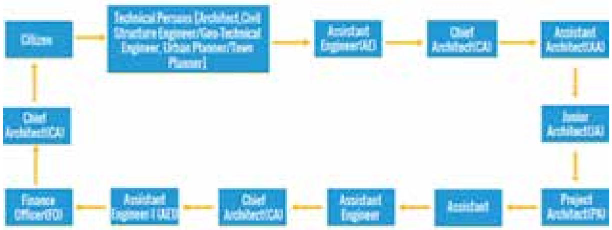
The purpose of this research's usefulness variable is to ascertain how directly helpful the user believes the online building plan sanctioning system to be. The study optimized the usefulness in terms of better than alternative, mobility, enhancement (*Nugraheni & Bayastura,* 2021).

ONLINE BUILDING PLAN SANCTIONING SYSTEM OF NEWTOWN KOLKATA

The online building plan sanctioning system of Newtown Kolkata Development Authority is hoisted under the aegis of the e-District Platform of Government of West Bengal. The system aims to electronically transform NKDA's building plan sanction function. Registration, processing, approval, certificate generation and report generation are the primary components of the system's scope (Bengal. n.d)

FIGURE 2

ONLINE BUILDING PLAN SANCTION SYSTEM PROCESS FLOW



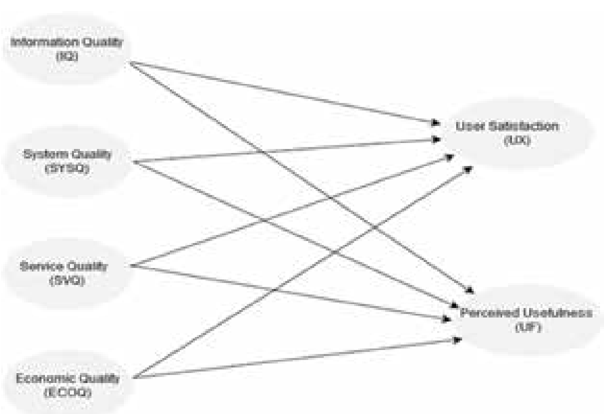
RESEARCH OBJECTIVE

This study aims to validate the impact of the identified three quality variables of the *Delone* & *McLean* I.S. Success framework over perceived usefulness (UF) and user satisfaction (UX) in the context of the stated online e-Gov system of Newtown Kolkata. Also the researchers aspire to add and test the role of economic quality as one of the contributing quality factors in addition to the other three, influencing users` perceptions of usefulness (UF) and user satisfaction (UX) with a smart e-government system in a smart city in India and to see if there are inter-connections amongst the variables.

PROPOSED THEORETICAL FRAMEWORK

FIGURE 3

PROPOSED RESEARCH MODEL



RESEARCH METHODOLOGY

Development of Research Instrument

A survey questionnaire was used to measure the variables of concern. On a five-point Likert scale, the questionnaire contained 21 items that were graded on a scale of 1 to 5. The questionnaire deployed in our work, had already been validated and applied in previously conducted investigations, indicating that the items had been examined for reliability and validity.

FIGURE 4: INSTRUMENT DEPLOYED

Construct	Parameter	Definition of the parameter	Source
Information Quality	The information provided by the online Building Plan Sanctioning system of NKDA is error free	Precision	Doll, W. J., & Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. MIS Quarterly, 12(2), 259–274.
	The information provided by the online Building Plan sanctioning system of NKDA is sufficient for my work	Sufficiency	
	The information available on the online Building Plan sanctioning system of NKDA is always up to date and latest.	Relevancy	
System Quality	I find the online Building Plan sanctioning system of NKDA to be user friendly.	User friendly	Doll, W. J., & Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. MIS Quarterly, 12(2), 259–274.
	Ifind the online Building Plan sanctioning system of NKDA to be quite easy to use.	Ease of use	
	I find the system flexible to interact with.	Flexibility	H. Mohammadi, "Investigating users ' perspectives on e- learning : An integration of TAM and IS success model," Comput. Human Behav., vol. 45, no. 1, pp. 359–374, 2015
	I do not need a long time to access the system.	Speed	Livari J 2005 An empirical test of the DeLone-McLean model of information system success The Data Base for Advances in Information System vol 36 pp 8-27

Service Quality	Whenever I face a problem, the online Building Plan sanctioning system of NKDA shows sincere interest in solving it.	Sincerety	Wang, Y.-S., & Tang, T.-I. (2003). Assessing customer perceptions of Websites service quality in digital marketing environments. Journal of End User Computing, 15(3), 14–31.
	I receive individual attention from the online Building Plan sanctioning system of NKDA	Responsiveness	
	I feel safe in my transactions on the online Building Plan sanctioning system of NKDA and do not fear the security of my system will be compromised.	Security and privacy	
Economic Quality	Using the e-service saved me TIME	Time Costs savings	Osman, I.H., Anouze, A.L., Irani, Z., Al-Ayoubi, B., Lee, H., Balci, A., Medeni, T.D. and Weerakkody, V. (2011) 'A new COBRAS framework to evaluate e-government services: a citizen centric perspective', Government Information Quarterly, Vol. 31, No. 2, pp.243–256
	Using the service saved me money	Economic costs savings	
User satisfaction	I am satisfied with the online Building Plan sanctioning system of NKDA.	Satisfaction	Doll & Torkzadeh, 1988; Palvia, 1996; Rai et al., 2002; Wang, Tang, & Tang, 2001).
	The online Building Plan sanctioning system of NKDA has met my expectations	Expectancy/ prospect	
Usefulness	Building Plan sanctioning system of NKDA allow me to do my activities faster than manual.	Better than alternative	Analysis of factors that influence satisfaction and usefulness for attendance system with the Delone & McLean model (case study: attendance system at Diponegoro University) Journal of Physics: Conference Series
	I agree that the system is effective because it can be done from anywhere	Mobility	
	The online Building Plan sanctioning system of NKDA increases the performance of my system	Enhancement	

Survey work & Data Collection

A self-administered in-person survey was distributed via Google Forms to 114 active architects empanelled with the concerned urban local body to gather the data out of whom 93 responded with replies and 59 of them were deemed adequate for the present analysis.

Validation and Reliability testing of the Instrument

A pilot survey has been conducted to validate the instrument and the outcome was found to be robust. Also before proceeding to the econometric tools, the reliability measures have been deployed. A solid Cronbach Alpha of 0.96.was achieved, that stands good as a measure for reliability.

OUTPUT AND RESULTS

The data collected from 59 respondents was put to analysis through SPSS.

Effect of IQ, SYSQ, SVQ AND ECOQ On UX

TABLE 1: DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
UX	4.2712	.86264	59
IQ	4.2034	.68932	59
SYSQ	4.1229	.90541	59
SVQ	4.3503	.74387	59
ECOQ	4.4576	.85746	59

TABLE 2: MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.926*	.858	.848	.33652

. *Predictors: (Constant), ECOQ, SYSQ, IQ, SVQ

TABLE 3: COEFFICIENTS,*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	*Std. Error*	*Beta*		
1	(Constant)	-.092	.300		-.306	.760
	IQ	-.018	.103	-.014	-.174	.863
	SYSQ	.517	.090	.543	5.728	.000
	SVQ	.254	.116	.219	2.192	.033
	ECOQ	.270	.082	.268	3.271	.002

*. Dependent Variable: UX

The regression model for impact of four quality variables, namely information quality (IQ), systems quality (SYSQ), service quality (SVQ), and economic quality (ECOQ), on user satisfaction (UX) showed that the four independent variables accounted for a considerable share of the variation in users' satisfaction ($R^2 = 0.858$, F (4, 54) = 81.783, $p < 0.001$). It has been found that UX= -.092+0.543*SYSQ+0.219*SVQ+0.268*ECOQ ($Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \varepsilon$). The results indicated that systems quality (β = 0.543, p < 0.001), economic quality (β = 0.268, p = 0.002), and service quality (β = 0.219, p = 0.033) have emerged as significant. Out of the significant factors, systems quality has been found to be most dominating, followed by economic quality and service quality respectively.

The study found no evidence of any significant link between information quality and user satisfaction.

Effect of IQ, SYSQ, SVQ AND ECOQ on UF

TABLE 4: DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
UF	4.6610	.61741	59
IQ	4.2034	.68932	59
SYSQ	4.1229	.90541	59
SVQ	4.3503	.74387	59
ECOQ	4.4576	.85746	59

TABLE 5: MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.869[a]	.754	.736	.31714
a.	Predictors: (Constant), ECOQ, SYSQ, IQ, SVQ			

Coefficients[a]TABLE 6: COEFFICIENTS*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	*Std. Error*	*Beta*		
1	(Constant)	1.504	.283		5.318	.000
	IQ	-.005	.097	-.006	-.052	.959
	SYSQ	.063	.085	.093	.745	.459
	SVQ	.379	.109	.456	3.470	.001
	ECOQ	.285	.078	.396	3.664	.001

*Dependent Variable: UF

The regression analysis demonstrates that the independent variables (IVs) collectively have a substantial effect on the dependent variable (DV), perceived usefulness (UF) (F(4, 54) = 41.457, $p < .001$, $R^2 = .754$). The model summary also shows that the independent variables account for 75.4 per cent of the variance in the DV.

However, when looking at the individual significance of the IVs, only service quality (SVQ) and economic quality(ECOQ) have a significant relationship with perceived usefulness or UF (SVQ: t(54) = 3.470, p = .001, ECOQ: t(54) = 3.664, p = .001). In contrast, information quality or IQ (t(54) = -.052, p = .959) and systems quality or SYSQ (t(54) = .745, p = .459) do not have a significant relationship with UF.

Also, UF= 1.504+.456*SVQ+.396*ECOQ ($Y = \beta 0 + \beta 1X1 + \beta 2X2 + \varepsilon$). The standardized regression coefficients (Beta) show that SVQ and ECOQ have the largest effects on UF, with coefficients of .456 and .396, respectively. Overall, these results suggest that service quality followed by economic quality is the most important predictors of UF, while information quality and systems quality have no impact on the perception of usefulness in the instant study.

FINDINGS AND DISCUSSION

TABLE 7 : SUMMARY OF OUTPUTS.

X	Systems Quality		Service Quality		Economic Quality		Information Quality	
Y	Sig.	β	Sig.	β	Sig.	β	Sig.	B
UX	**0**	**0.543**	**0.033**	**0.219**	**0.002**	**0.268**	0.863	N.A
UF	0.459	N.A	**0.001**	**0.456**	**0.001**	**0.396**	0.959	N.A

We may now summarize the findings of the data analyses done above, which we have considered to be noteworthy:

1. In Newtown Kolkata's e-Governance application, only service quality and economic quality significantly affected users' impression of usefulness {UF = f(SVQ, ECOQ)}. Service quality and economic quality determined the application's usability and application users were especially attentive to service quality.

   Service quality and economic quality may affect the perceived utility of the e-governance application for many reasons. First, sophisticated software users anticipate good service quality. Second, in developing countries like India, many users may use the e-governance application via low-cost devices with inadequate connection. To guarantee value, accessibility, and usage by a broad variety of users, the application should be designed with service quality and economic quality in mind.

   Because users must utilize the mandated system, systems and information quality may not be as crucial as users may feel unable to modify a mandated system. This makes the IS` service quality crucial for users` perception of its utility.

2. In the instant case, only systems quality, service quality and economic quality had a substantial impact over user satisfaction, with the highest importance given to the quality of the system by its users { *UX = f(SYSQ, SVQ, ECOQ)*}.

   The study found that information quality did not have a significant impact on user satisfaction. In contrast, systems quality, service quality, and economic quality had a direct bearing upon a user's satisfaction while using the system. The reason for this could be that users group surveyed in this case are highly qualified professionals and have prior experience working with sophisticated technology and thus, they may not have significant concerns about the quality of the information provided . Users, for their comfort, want a system that is reliable, secure, easy to use, and provides accurate output. They also want a system that is cost-effective and provides good value for time and money.

3. Economic quality was found to have high connection with perceptions of usefulness and user satisfaction. We value this. First, system expenses worry users. Even if it's essential or offers vital services, a costly or unprofitable system may repel users. Users also want to make sure their system investment is worth it.

   Economic and service quality is typically linked. User happiness depends on a well-designed, cost-effective system that delivers high-quality services at a reasonable price.

   Finally, information system performance and sustainability depend on economic quality. A low-cost, high-quality system may attract more users and create more income, which can support system enhancements. The study's findings emphasize the importance of economic quality as a significant quality criterion that impacts both the perception of usefulness and user satisfaction in an information system.

IMPLICATIONS AND CONCLUSION

In our work, we have tried to contribute to the existing literature by discovering economic quality as a significant quality criterion that impacts both the perception of usefulness and user satisfaction in a governance information system in the setting of a country like India. The study finds that economic quality is critical as users are often concerned about the costs and returns associated with using the system.

However, the instant study only covers experts who are acclimated to sophisticated technology, which may limit its application to the general population. The study also covers a single e-government system and may not apply to others. However, this study gives an insight to Indian urban users' views of a smart governance system and allows potential for further research. MA

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A STUDY ON PERFORMANCE OF EXCHANGE TRADED FUNDS IN INDIAN CAPITAL MARKET

Abstract

This article attempts to evaluate the performance of Indian ETFs using Sharpe ratio, Treynor ratio, and Jenson's alpha from 2017 to 2022. The analysis of Jensen's Alpha is positive for all ETFs and all ETF funds are performing better and giving better returns to the investors. The result of this study will help the investors to invest in select ETFs and diversify their portfolio accordingly.

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INTRODUCTION

ETFs can contain many types of investments including stocks, commodities, bonds, or a mixture of investment types. With technological advancement and rapid growth of Indian capital market, it is possible to innovate new financial products and instruments. Exchange Traded Fund or ETF is one of the innovative financial products and it is connected to stock and mutual fund. ETFs are like stock which can be bought and sold in the stock market throughout the trading day. Assets Under Management (AUM) of Indian mutual fund industries as on February 28, 2023stood at Rs.39,46,257 cr. The mutual fund industry has crossed a milestone of 10cr folios during the month of May 2021.During December, 2022 the net inflow of mutual funds stood atRs.4,491 cr as compared to net inflow of Rs.13,264cr during November 2022. Gross fund mobilised by open ended scheme during December 2022 was Rs.9,13,971 cr as against redemption of Rs.9,10,799 cr resulting in a net inflow of 3,172 cr from open ended schemes.

LITERATURE REVIEW

The introduction of Gold ETFs helps to promote the growth of ETFs in India (*Athma and Mamatha,* 2013). Further, the performance of exchange traded funds and index fund reveals that index funds have performed better than the ETFs in terms of tracking error where as in terms of active returns ETFs' performance was better. (*Narend,* 2014). Again those ETFs are the investment alternative for investors but tracking error does exist while comparing the performance of Indian ETFs with their underlying index (*Arora,* 2014). Again the trading in Gold ETFs is increasing over the time as the gold prices are constantly touching new highs and the investors are attracted to these ETFs. (*Raju,* 2018). Again physical gold and gold ETF have strong positive relationship and Gold ETFs generate better return than physical gold. (*Kumar* and *Raj,* 2019)

ETFs protect long-term investors from inflows and outflows of short-term investors. ETFs are highly flexible and can be used as a tool for gaining instant exposure to the equity markets. In line with this, the objective of this study is to analyse the performance of ETFs for India.

RESEARCH METHODOLOGY

The study collected from 13 ETF funds for the period 2017 to 2022 from Bloomberg. The study employs the average return, risk adjusted returns, Sharpe Ratio, Treynor Ratio, and Jenson Alpha.

RESULTS

The investment objective of the schemes is to provide returns before expenses that closely correspond to the total returns of the S & P CNX Nifty subject to taking errors. The performance of ETFs is measured by analyzing their average returns. The ETFs considered in this study outperformed their underlying index.

ETFs are highly flexible and can be used as a tool for gaining instant exposure to the equity markets

TABLE 1: AVERAGE RETURN								
ETF Fund	2017	2018	2019	2020	2021	2022	Average	Deviation
NIFTY50 (Benchmark)	0.11	0.02	0.05	0.06	0.09	0.01	0.06	
Aditya Birla SL Nifty50 ETF	0.11	0.02	0.05	0.06	0.09	0.01	0.06	0.00
CPSE ETF	0.07	-0.09	-0.02	-0.06	0.15	0.12	0.03	-0.03
HDFC S&P BSE Sensex ETF	0.11	0.03	0.06	0.06	0.08	0.01	0.06	0.00
ICICI Pru Nifty50 ETF	0.11	0.02	0.05	0.06	0.09	0.01	0.06	0.00
Invesco India Nifty50 ETF	0.11	0.02	0.05	0.06	0.09	0.01	0.06	0.00
Kotak Nifty 50 ETF	0.11	0.02	0.06	0.06	0.09	0.01	0.06	0.00
Motilal Oswal Nasdaq100 ETF	0.09	0.03	0.10	0.17	0.11	-0.14	0.06	0.00
Motilal Oswal Nifty 50 ETF	0.10	0.02	0.05	0.06	0.09	0.01	0.05	0.00
Nippon India ETF Nifty50 BeES	0.11	0.02	0.05	0.06	0.09	0.01	0.06	0.00
Quantum Nifty50 ETF	0.11	0.02	0.05	0.06	0.09	0.01	0.06	0.00
SBI Gold ETF	0.01	0.03	0.09	0.09	-0.02	0.01	0.04	-0.02
SBI Nifty50 ETF	0.11	0.02	0.05	0.06	0.09	0.01	0.06	0.00
UTI S&P BSE Sensex ETF	0.11	0.03	0.06	0.06	0.08	0.01	0.06	0.00

The above table analyses the average return performance of ETFs. In this table,HDFC S&P BSE Sensex ETF, Kotak Nifty 50 ETF, Motilal Oswal Nasdaq 100 ETF, UTI S&P BSE Sensex ETF have shown highest average return is 0.057 andCPSE ETF has shown the lowest average return of 0.029. Out of thirteen ETFs four have shown over performance, three equal to benchmark and six have shown under performance.

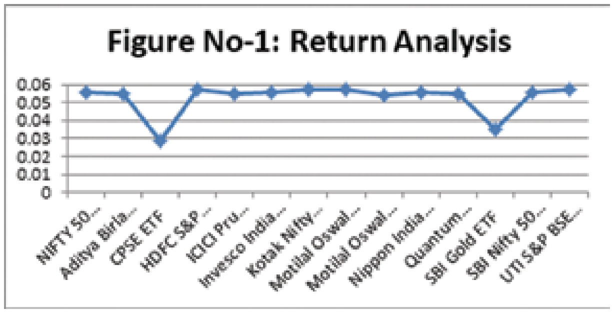


TABLE 2: TOTAL RISK (STANDARD DEVIATION)								
ETF Fund	2017	2018	2019	2020	2021	2022	Average	Deviation
NIFTY50 (Benchmark)	0.57	0.81	0.87	2.00	0.99	1.18	1.07	
Aditya Birla SL Nifty50 ETF	0.56	0.08	0.87	1.99	0.99	1.18	1.12	0.05
CPSE ETF	0.91	1.31	1.35	2.04	1.48	1.44	1.42	0.35
HDFC S&PBSE Sensex ETF	0.56	0.79	0.87	2.04	1.00	1.19	1.07	0.01
ICICI Pru Nifty50 ETF	0.57	0.81	0.87	1.99	0.99	1.18	1.07	0.00
Invesco India Nifty50 ETF	0.57	0.81	0.87	2.00	0.99	1.18	1.07	0.00
Kotak Nifty50 ETF	0.57	0.81	0.87	2.00	0.99	1.18	1.07	0.00
Motilal Oswal Nasdaq100 ETF	0.70	1.48	1.05	2.20	1.19	2.06	1.45	0.38
Motilal Oswal Nifty50 ETF	0.57	0.80	0.86	1.99	0.98	1.17	1.06	-0.01
Nippon India ETF Nifty50 BeES	0.57	0.81	0.87	2.00	0.99	1.18	1.07	0.00
Quantum Nifty50 ETF	0.57	0.81	0.87	2.00	0.99	1.18	1.07	0.00
SBI Gold ETF	0.63	0.58	0.75	1.13	0.73	0.86	0.78	-0.29
SBI Nifty50 ETF	0.57	0.81	0.87	2.00	0.99	1.18	1.07	0.00
UTI S&P BSE Sensex ETF	0.56	0.79	0.87	2.04	1.00	1.19	1.08	0.01

This table provides summarized information about year wise values of standard deviation for select schemes as well as benchmark index. It has revealed that Motilal Oswal Nasdaq 100 ETF has highest average value of standard deviation having the highest total volatility during the study period.

Figure No-2: Standard Deviation (Total Risk)

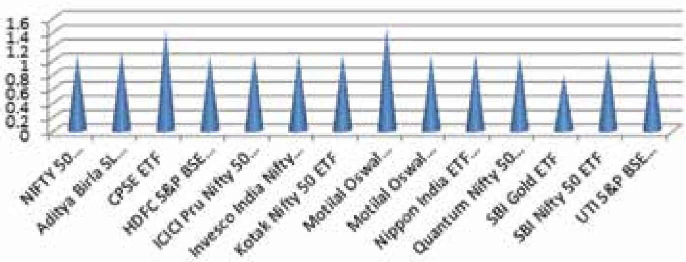


TABLE 3: BETA							
ETF Fund	2017	2018	2019	2020	2021	2022	Average
NIFTY50 (Benchmark)							1
Aditya Birla SL Nifty50 ETF	0.97	1.00	1.00	1.00	1.00	1.00	0.99
CPSE ETF	0.95	0.94	0.96	0.74	0.89	0.55	0.84
HDFC S&P BSE Sensex ETF	0.97	0.97	0.99	1.02	1.00	1.00	0.99
ICICI Pru Nifty50 ETF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Invesco India Nifty50 ETF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kotak Nifty 50 ETF	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Motilal Oswal Nasdaq100 ETF	0.34	0.50	0.66	0.33	0.22	0.75	0.47
Motilal Oswal Nifty50 ETF	0.99	0.99	0.99	0.99	0.99	1.00	0.99
Nippon India ETF Nifty50 BeES	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Quantum Nifty50 ETF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SBI Gold ETF	-0.23	-0.13	-0.18	0.03	-0.01	-0.15	-0.11
SBI Nifty50 ETF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
UTI S&P BSE Sensex ETF	0.97	0.97	0.99	1.02	1.01	1.01	0.99

A Beta is a measure of stock volatility in relation to the overall market. A Beta greater than 1 indicates more volatile than the overall market. A Beta of less than 1 indicates less volatile than overall market. It has been found that all 13 select ETFs had average beta value less than 1 which indicates that they were less volatile.

Figure No- 3: Beta

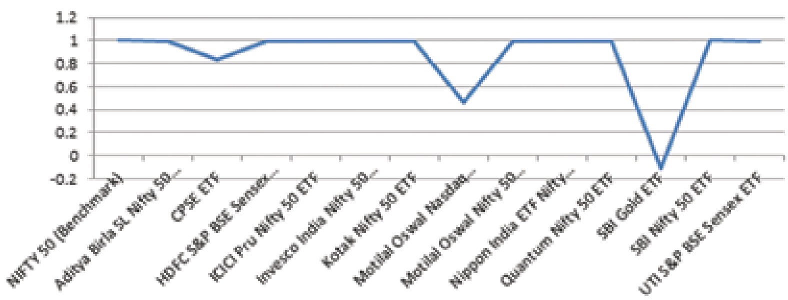


TABLE 4: SHARPE MODEL								
ETF Fund	2017	2018	2019	2020	2021	2022	Average	Deviation
NIFTY 50 (Benchmark)	0.19	-0.03	0.16	0.11	0.08	-0.22	0.05	

Aditya Birla SL Nifty50 ETF	0.19	-0.03	0.16	0.11	0.08	-0.22	0.05	0.00
CPSE ETF	0.08	-0.10	0.05	0.05	0.09	-0.10	0.01	-0.04
HDFC S&P BSE Sensex ETF	0.19	-0.02	0.17	0.11	0.07	-0.22	0.05	0.00
ICICI Pru Nifty50 ETF	0.19	-0.03	0.16	0.11	0.08	-0.22	0.05	0.00
Invesco India Nifty50 ETF	0.19	-0.03	0.16	0.11	0.08	-0.22	0.05	0.00
Kotak Nifty50 ETF	0.19	-0.03	0.16	0.02	0.08	-0.22	0.03	-0.02
Motilal Oswal Nasdaq100 ETF	0.13	-0.01	0.22	0.15	0.08	-0.20	0.06	0.01
Motilal Oswal Nifty50 ETF	0.18	-0.03	0.16	0.11	0.08	-0.22	0.05	0.00
Nippon India ETF Nifty50 BeES	0.19	-0.03	0.16	0.11	0.08	-0.22	0.05	0.00
Quantum Nifty50 ETF	0.19	-0.03	0.16	0.11	0.08	-0.22	0.05	0.00
SBI Gold ETF	0.02	-0.03	0.23	0.23	-0.05	-0.30	0.02	-0.03
SBI Nifty 50 ETF	0.19	-0.03	0.16	0.11	0.08	-0.22	0.04	-0.01
UTI S&P BSE Sensex ETF	1.19	-0.02	0.17	0.11	0.07	0.22	0.29	0.24

Sharpe ratio is used to help investors understand the return on investment compared to its risk. This table has shown average value of Sharpe index for the select scheme and benchmark index over the study period. It has been found that out of 13 schemes studied, 3 have shown over performance, 6 have shown under performance and 4 have shown performance equal to the benchmark index. It has been found that UTI S&P BSE Sensex ETF had greater value of Sharpe ratio as compared to other schemes and hence these schemes provide better return.

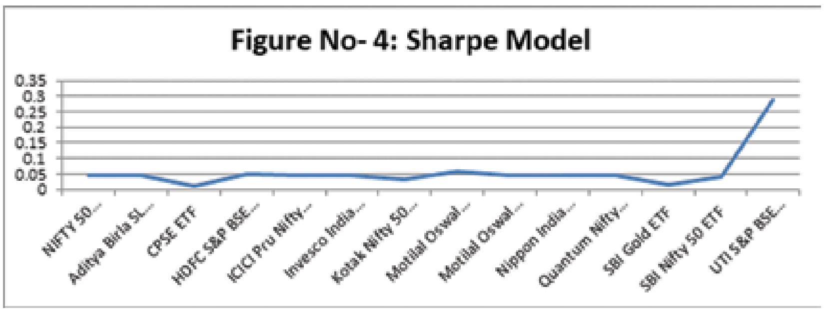


Figure No- 4: Sharpe Model

TABLE 5: TREYNOR MODEL								
ETF Fund	2017	2018	2019	2020	2021	2022	Average	Deviation
NIFTY50 (Benchmark)	1.11	-0.02	0.14	0.22	0.08	-0.26	0.21	
Aditya Birla SL Nifty50 ETF	1.09	-0.25	0.14	0.22	0.08	-0.26	0.17	-0.04
CPSE ETF	1.07	-0.14	0.07	0.14	0.15	-0.27	0.17	-0.04
HDFC S&P BSE Sensex ETF	0.11	-0.02	0.15	0.22	0.07	-0.26	0.04	-0.17
ICICI Pru Nifty50 ETF	0.11	-0.03	0.14	0.22	0.08	-0.26	0.04	-0.17
Invesco India Nifty50 ETF	0.11	-0.03	0.14	0.22	0.08	-0.26	0.04	-0.17
Kotak Nifty50 ETF	0.11	-0.25	0.14	0.22	0.08	-0.26	0.01	-0.21
Motilal Oswal Nasdaq100 ETF	0.26	-0.04	3.97	0.99	0.41	-0.24	0.89	0.68
Motilal Oswal Nifty50 ETF	0.10	-0.03	0.14	0.22	0.08	-0.26	0.04	-0.17
Nippon India ETF Nifty 50 BeES	0.11	-0.02	0.14	0.22	0.08	-0.26	0.04	-0.17
Quantum Nifty50 ETF	0.11	-0.03	0.14	0.22	0.76	-0.26	0.16	-0.05
SBI Gold ETF	-0.05	0.15	-0.94	7.63	2.80	1.74	1.89	1.68

SBI Nifty50 ETF	0.11	-0.02	0.14	0.22	0.08	-0.26	0.04	-0.17
UTI S&P BSE Sensex ETF	0.11	-0.02	0.15	0.22	0.07	-0.26	0.05	-0.17

From this table the average values of Treynors index both for select schemes and the underlying benchmark index have been found over the study period. Out of 13 the schemes 2 have shown over performance while the rest 11 have shown under performance. SBI Gold ETF had the highest Treynor ratio as compared to others it shows grater skills in managing the investment. It is necessary to update and upgrade portfolio composition of different schemes to make them farewell.

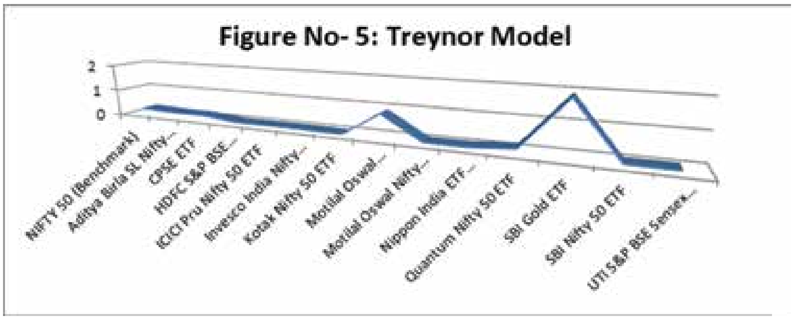
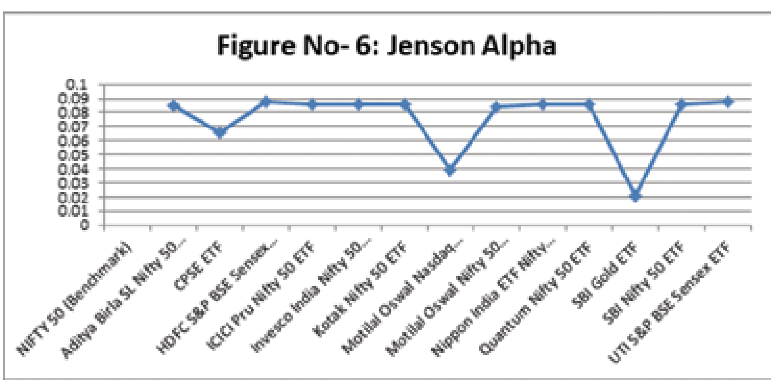


TABLE 6: JENSON ALPHA							
ETF Fund	2017	2018	2019	2020	2021	2022	Average
NIFTY 50 (Benchmark)							
Aditya Birla SL Nifty50 ETF	0.21	-0.05	0.27	0.44	0.15	-0.51	0.09
CPSE ETF	0.17	-0.16	0.20	0.27	0.20	-0.29	0.07
HDFC S&P BSE Sensex ETF	0.21	-0.04	0.28	0.45	0.15	-0.52	0.09
ICICI Pru Nifty50 ETF	0.22	-0.05	0.27	0.44	0.15	-0.51	0.09
Invesco India Nifty50 ETF	0.22	-0.05	0.27	0.44	0.15	-0.51	0.09
Kotak Nifty 50 ETF	0.22	-0.05	0.27	0.44	0.15	-0.51	0.09
Motilal Oswal Nasdaq100 ETF	0.12	-0.03	0.24	0.40	0.11	-0.60	0.04
Motilal Oswal Nifty50 ETF	0.21	-0.05	0.27	0.44	0.15	-0.51	0.08
Nippon India ETF Nifty50 BeES	0.22	-0.05	0.27	0.44	0.15	-0.51	0.09
Quantum Nifty50 ETF	0.22	-0.05	0.27	0.44	0.15	-0.51	0.09
SBI Gold ETF	-0.01	-0.02	0.15	0.26	-0.03	-0.22	0.02
SBI Nifty50 ETF	0.22	-0.05	0.27	0.44	0.15	-0.51	0.09
UTI S&P BSE Sensex ETF	0.21	-0.04	0.28	0.45	0.15	-0.52	0.09

The above table gives information about the year wise values of Alpha for each select scheme as well as the average value during the study period. Jenson Alpha is an index of management skills of fund managers. All the schemes have shown positive Alpha.



FINDINGS

In this study various performance measurements such as risk adjusted return, Sharpe ratio and Treynor ratio are used to evaluate the performance of select ETFs. It has been found that out of 13 selected schemes 3 have shown over performance, 6 have shown under performance and 4 schemes have shown performance equal to the benchmark index. SBI Gold ETF had the highest Treynor ratio as compared to other s schemes. It has been found that all schemes had average Beta value less than 1 which indicates less volatility. It has also been found that all the schemes had positive Alpha implying superior returns due to superior management skills and negative Alpha implies inferior management skills as compared to the market.

CONCLUSION

This study has found that all selected ETFs have performed well. Jensen's Alpha was positive for all ETFs All ETFs were performing better yielding better returns to the investors.This study motivates the investors to make investment in ETFs which is the one of the best investment avenues for earning more return with limited risk. It is the duty of fund managers and AMCs to be thoroughly transparent in their strategy formulation so that the investors can understand the risk, returns and portfolio diversification concepts. MA

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ANALYSIS OF FISCAL HEALTH OF MUNICIPALITIES IN WEST BENGAL POST 2011
A CASE STUDY OF JANGIPUR MUNICIPALITY

Abstract

The looming fact in the Indian municipal scenario is that the inter-governmental fiscal transfers have been the basic financial source of existence for most of the municipalities which pose an obstruction for India in the proper acceleration of sustainable development and municipalities throughout the country are having very low municipal revenue generation cum revenue mobilization as compared with the counterparts of other developed countries and the municipal financial scenario in West Bengal, the second most populated State in India, is no exception with very low revenue autonomy ratio as well as financial autonomy ratio. The main objective of this article is, therefore, to evaluate the financial health of a randomly selected municipality under West Bengal, at present time to check whether there has been any deviation in the accepted notion and thus to opine some effective measures thereon.

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INTRODUCTION

The looming fact in the Indian municipal scenario is that inter-governmental fiscal transfers have been the basic financial source of existence for most of the municipalities coupled with very low municipal revenue generation and mobilization which pose an obstruction for India in the proper acceleration of sustainable development of urban infrastructure on a larger scale through filling the fiscal gaps and minimizing the fiscal stress and thus resulting in a weak fiscal health structure of municipalities. A municipality is said to be financially or fiscally healthy if it can meet and balance the financial obligations with its available revenue streams. The ability to balance the obligations is viewed across four solvencies. Those are:

- Cash Solvency: The ability of the Government to meet its immediate or short-term financial obligations.
- Budget Solvency: The ability of the Government to meet its financial obligations over the budgeted fiscal year.
- Long Term Solvency: The ability of the Government to meet its long-term financial obligations
- Service Level Solvency: The ability of the Government to finance its base level programmes and services as required by the law.

NEED FOR THE STUDY

Measuring fiscal health is essential to determine the ability of a Government since it helps to meet their financial obligation, a major challenging task for any Government in a country (*Mcdonald, 2018*). Basically, there are 18 obligatory functions that have been entrusted to a Municipality under Article 243 of the Constitution and clearly ULBs would not be able to perform these functions effectively unless they optimize their revenues and resources through efficient management of finance and thus ensuring sound financial cum fiscal health of the municipality. But the scenario is something different from the desired level, as per available literature and data, which further necessitates the need for the study. In West Bengal there has been a drastic change that has taken place when citizens of West Bengal elected a new government after 34 years of earlier Government and since then, i.e., post 2011 a fresh assessment of the progress of the affairs and financial health of municipalities was felt and hence this study.

REVIEW OF LITERATURE

Indian urban local bodies are amongst the weakest in the world in terms of fiscal autonomy and their capacity to deliver civic infrastructure and services to meet the demands of growing urbanisation and rapid economic growth. *Ahluwalia, I.J.* et. al., (2019). *Chatterjee, Dr. M.;Mishra, A.R.* (2014), in their study on the "Fiscal Health of the small and Medium Towns of West Bengal", have used FTMS, issued by the ICMA, to evaluate the financial condition of the sample ULBs on the basis of their revenues, expenditures, operating position and debt structure and concluded that revenue surplus generation, the most important factor contributing for financial solvency, is lower in all municipalities. They have also opined that municipalities are depending heavily upon the Government revenue grants even to their recurring expenditure. *Das, M; Chattopadhyay, S.* (2018), in their article "Strengthening Fiscal Health of Urban Local Bodies", opined that the OSR of ULBs are insufficient to cover revenue expenditure. Therefore, ULBs are highly dependent on State transfers. This, in turn, limits their fiscal autonomy.

OBJECTIVES

The broader objective is to assess the financial health of the selected sample municipality in the form of revenue autonomy, financial autonomy with in-depth analysis of revenue surplus generation cum revenue mobilization capability, points of fiscal stress and identifying the fiscal gaps keeping in mind the measurement reliability and validity of the analysis methods.

RESEARCH METHODOLOGY

The literature offers several ways to measure the municipal fiscal health. **[***Chatterjee, Dr. M.; Mishra, A.R.* (2014)]. There is a 'Ten-Point Test of Fiscal Condition' (*Brown,* 1993), that yields a snapshot of a local Government's fiscal health. Besides there are the fiscal capacity analysis, a budgetary tool to analyse the budget trends and thus help in budget projection and the financial trend monitoring system (FTMS) by International City/ Country Management Association (ICMA) helps decision makers regarding the fiscal health of urban local bodies based on ULBs revenues, expenditures, operating position and debt structure (*Honadle,* et al. 2004). *Wang* et al. (2007) have researched to establish a new method by which financial conditions can be easily realized and to address the difficulties of previous methods. However, when it comes to Government officials, what indicators are useful and how they are used remains an empirical question. Therefore, for this current research, using a combined framework of *Wang, Dennis* and *Tu's* Solvency test and *Brown's* Ten-point Test, with some modifications through ratio analysis and additionally the growth rate analysis have been applied simultaneously which are hardly available in the literature. A detailed case study approach has been adopted by taking data of the selected municipality for the last 10 years duration as longitudinal data collected over time may further validate the findings of this study and make it possible to analyse changes in financial condition and its causes (*Wang et al.* 2007).

RESEARCH UNIVERSE AND SAMPLE PROFILE

Jangipur Municipality, one among the 115 municipalities in West Bengal, situated in Murshidabad having positioned between the Northern part and Southern part of West Bengal, has randomly been selected as sample for the study. The revenue and expenditure and other financial data have been collected from the annual audited accounts of this municipality for the study period i.e. 2011-12 to 2020-21.

LIMITATIONS OF THE STUDY

The study has been undertaken subject to certain other limitations. It is related to financial aspects alone and does not pay attention to other factors like personnel management, civic services, or the trend towards growth of local autonomy. As there is very meager long-term loan/ debt component in the financial structure of the selected municipality, throughout the period of study, debt related ratio analysis has been ignored.

TABLE-1

FISCAL HEALTH ASSESSMENT

Sl. No.	Ratios	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Average	SD
1	Inter-governmental Revenues/ Total Revenues percentage	0.50	0.71	0.72	0.73	0.76	0.74	0.76	0.74	0.77	0.82	0.73	0.08
	Growth Rate	-	0.42	0.01	0.01	0.03	-0.02	0.02	-0.02	0.03	0.07	0.06	0.13
2	Own Source Revenues/ Total Revenues Percentage	0.25	0.26	0.25	0.25	0.23	0.25	0.21	0.23	0.21	0.16	0.23	0.03
	Growth Rate	-	0.04	-0.05	0.00	-0.08	0.06	-0.14	0.10	-0.09	-0.23	-0.04	0.10
3	Total Expenditures per Capita	862.30	939.00	1099.61	1108.61	1267.35	1235.13	1392.91	1499.23	1954.70	2261.81	1362.07	420.42
	Growth Rate	-	0.09	0.17	0.01	0.14	-0.03	0.13	0.08	0.30	0.16	0.12	0.09
4	Operating Surplus or Deficit/ Operating Revenues Percentage	0.10	0.01	-0.01	-0.02	0.00	0.14	0.15	0.10	0.03	0.04	0.05	0.06
	Growth Rate	-	-0.92	-2.13	1.36	-1.22	27.00	0.08	-0.32	-0.73	0.35	2.61	0.06
5	General Fund Balance/ General Fund Revenues Percentage	0.82	0.91	0.79	0.77	0.62	0.55	0.59	0.71	0.66	0.57	0.70	0.12
	Growth Rate		0.11	-0.14	-0.03	-0.19	-0.12	0.07	0.20	-0.07	-0.13	-0.03	0.13
6	Cash Ratio	13.14	12.24	14.31	2.65	16.60	17.98	14.67	13.83	7.55	6.30	11.93	4.62
	Growth Rate	-	-0.07	0.17	-0.81	5.26	0.08	-0.18	-0.06	-0.45	-0.16	0.42	1.73
7	Quick Ratio	13.84	13.05	15.30	2.84	17.79	12.77	15.55	14.43	11.33	7.47	12.44	4.14
	Growth Rate	-	-0.06	0.17	-0.81	5.26	-0.28	0.22	-0.07	-0.21	-0.34	0.43	1.73
8	Current Ratio	12.44	11.23	12.94	2.29	14.61	16.15	13.30	12.27	9.98	5.63	11.08	3.98
	Growth Rate	-	-0.10	0.15	-0.82	5.38	0.11	-0.18	-0.08	-0.19	-0.44	0.43	1.77
9	Operating Ratio	1.11	1.01	0.99	0.98	1.00	1.16	1.17	1.11	1.03	1.04	1.06	0.07
	Growth Rate	-	-0.09	-0.02	-0.01	0.03	0.15	0.01	-0.05	-0.08	0.01	-0.01	0.06
10	Surplus/Deficit per capita	95.48	7.78	-10.13	-23.79	6.23	195.97	242.11	168.19	55.01	86.71	82.36	88.27
	Growth Rate	-	-0.92	-2.30	1.35	-1.26	30.47	0.24	-0.31	-0.67	0.58	3.02	9.76
11	Net Asset Ratio	0.42	0.43	0.30	0.49	0.50	0.96	0.48	0.79	0.49	0.42	0.53	0.19
	Growth Rate	-	0.02	-0.30	0.62	0.01	0.94	-0.50	0.65	-0.38	-0.14	0.10	0.48
12	Tax per capita	82.24	113.43	113.68	99.66	119.81	112.29	145.77	157.92	158.53	130.60	123.39	23.59
	Growth Rate	-	0.38	0.00	-0.12	0.20	-0.06	0.30	0.08	0.00	-0.18	0.07	0.18

13	Revenue per capita	957.77	946.78	1089.49	1084.82	1273.58	1431.10	1635.02	1667.43	2009.71	2348.52	1444.42	446.33
	Growth Rate	-	0.01	0.15	0.00	0.17	0.12	0.14	0.02	0.21	0.17	0.11	0.07
14	Property Tax per capita	33.76	33.09	28.65	31.22	31.48	53.46	73.47	66.26	69.77	68.71	48.99	18.05
	Growth Rate	-	-0.02	-0.13	0.09	0.01	0.70	0.37	-0.10	0.05	-0.02	0.11	0.25
15	Establishment Expenses/ Total Revenue	0.35	0.38	0.31	0.35	0.28	0.27	0.30	0.28	0.27	0.30	0.31	0.04
	Growth Rate	-	0.08	-0.18	0.13	-0.21	-0.02	0.10	-0.07	-0.05	0.13	-0.01	0.12
16	OSR per capita	243.39	250.55	274.06	272.56	294.53	352.27	358.17	386.33	422.70	381.15	323.57	60.63
	Growth Rate	-	0.03	0.09	-0.01	0.08	0.20	0.02	0.08	0.09	-0.10	0.05	0.08
17	Grant per capita	480.11	676.19	789.41	794.52	962.79	1062.81	1242.02	1239.71	1537.86	1914.65	1070.01	407.42
	Growth Rate	-	0.41	0.17	0.01	0.21	0.10	0.17	0.00	0.24	0.25	0.17	0.12
18	OSR/ Total Revenue Expenses	0.28	0.27	0.25	0.25	0.23	0.29	0.26	0.26	0.22	0.17	0.25	0.03
	Growth Rate	-	-0.05	-0.07	-0.01	-0.05	0.23	-0.10	0.00	-0.16	-0.22	-0.05	0.12

Source: Computed from audited annual financial statements of the sample municipality

FINDINGS AND CONCLUSION

The above Table shows various ratios based on various measurements on fiscal health assessment and it is also indicating that SDs is on par with mean of each category of ratios. Keeping parity with the national scenario this municipality is also having a high revenue dependency ratio, i.e. the ratio of Government grant receipts to total revenue with an average of 73 per cent dependence on inter-governmental fiscal transfers whereas the favourable ratio is only 10 per cent and the dependence rate, though marginally, is in growing trend. The trend of revenue autonomy ratio- the percentage of share of own source revenue to total revenues- reveals that it is having a mean of 23 per cent and that too on a declining rate, whereas the favourable rate would have been 40 per cent and minimum acceptable ratio would have been at least 25 per cent. Own source revenue has also been insufficient to meet the revenue expenses as the financial autonomy ratio, i.e. the ratio of revenue expenditure funded out of own source revenue (OSR*),Das, M; Chattopadhyay, S.* (2018), is having a mean of 25 per cent and moreover it is also on a negative growth trend. Revenue surplus generation, the most important factor as a contributor for financial solvency, has also been very low. Regarding budget solvency positions, the operating ratio, i.e. the ratio of revenue income and revenue expenses, is hovering at an average of 1.06 and in most of the years under study there has been negative growth in comparison to earlier year. Surplus/ deficit per capita are also very poor with a mean of Rs. 82.36. It has also been found that tax revenue per capita, though is in increasing trend, is still very poor with an average of 123.39 and growth rate is in looming stage and to penetrate more, property tax, the most important weapon for a municipality towards building its own financial health, is in fiscal stress stage as it is having an average of only 48.99 as far as property tax per capita is concerned. There has been some growth in recent time but still there is lots of work to do to bridge the fiscal gaps and build the fiscal health on the part of the municipality. Revenue per capita is having an increasing trend with an average of 1444.42 which is a good sign but the OSR per capita, which has also been in increasing trend with a mean of 323.57, is very much low in comparison to the total revenue per capita which is certainly not a good sign for any municipality, indicating its inefficiency in own revenue generation. As a result, the ratio between operating surplus and operating revenue has also been in poor condition with an average of only 0.05 with growth rate remaining positive altogether. Overall the service solvency level is not in a satisfactory condition though total expenditure per capita is in increasing mode with an average of 1362.07 and rate of growth in this ration has also been in increasing mode which is a positive sign as far as the expenses towards the enhancement of service to citizens are concerned. Regarding the ratio of establishment expenses to total revenue, the mean has been 31 per cent and the ratios throughout the years of study have been almost in the same range indicating a favourable position being less than 40 per cent as a whole, [*Mathur & Ray* (2003)]. As far as the long run solvency is concerned the net asset ratios throughout the period of study has been in a moderate position with an average of 53 per cent indicating a favourable position. Regarding the ratio of general fund balance to general fund revenues, the mean ratio has been 70 per cent which indicates a fair position. Finally coming to the short-term solvency or liquidity or cash solvency analysis, cash ratio has been having a mean of 11.93 though there have been some variations throughout the period of study and quick ratios are having an average of 12.44 with consecutive negative growth trend for both types of ratios. As regards the current ratio, which may probably be denoted as the most popular liquidity ratio, there has also been the same trend with negative growth but the mean current ratio has been 11.08. STo conclude as far as short-term solvency positions are concerned, the positions are indicating favourable results especially due to very low component of short-term liability to the financial structure of the municipality throughout the period of study. Though it appears that the municipality is strong in cash solvency position, its solvency in other areas varies greatly with much scope and need for betterment.

Fiscal decentralization, through 74th CAA was done for enabling municipalities with greater financial autonomy but this study has also shown that the municipality is highly dependent on grant revenue. Besides, the municipality lacked heavily in the area of property tax revenue and therefore quick and stringent steps should immediately be taken for enhancing the efficiency in collection of the property tax. Reforms through providing autonomy to municipalities to set tax rate and that too by adopting unit area method would be ideal.

Reforms through providing autonomy to municipalities to set tax rate and that too by adopting unit area method would be ideal

Grant revenue should not be forming the major source of revenue rather optimum situation would be when it would act as supplement to OSR of municipalities. Efforts should also be made for innovations in revenue generation avenues and improving revenue mobilization, professionalization, and capacity building of staffs.

Analysis through descriptive statistics and application of ANOVA or regression analysis would have been more beneficial for the research. Additionally, a cross sequential research study by comparing some sample municipalities under different strata would be ideal for further research in this area. MA

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THE RELEVANCE OF HR AUDIT FOR ENSURING EMPLOYEE PRODUCTIVITY

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Abstract

Human resource (HR) audit is an important tool that helps organizations to evaluate and improve their HR policies, practices, and procedures. In today's world, where organizations face many challenges related to talent management, workforce planning and employee engagement, HR audit has become increasingly relevant. This article examines the relevance of HR audits in today's world for ensuring employee productivity. It reviews the literature on HR audits and benefits and also explores the relationship between HR audit and employee productivity and presents findings from a survey conducted to examine the views of HR professionals on the subject. The results indicate that HR audit can have a positive impact on employee productivity by identifying areas for improvement, enhancing compliance with laws and regulations and aligning HR practices with organizational goals. The article concludes with implications for practice and future research.

INTRODUCTION

Human resource (HR) management is a crucial aspect of organizational performance. It involves managing the workforce, including hiring, training, development and compensation, among others. HR policies, practices, and procedures play a critical role in shaping the behaviour and performance of employees. To ensure that HR practices are effective and aligned with organizational goals, it is important to conduct periodic HR audits. An HR audit is a comprehensive review of an organization's HR policies, practices and procedures to assess compliance identify areas for improvement and make recommendations for action. In today's world, where organizations face many challenges related to talent management, workforce planning and employee engagement, HR Audit has become increasingly relevant. The purpose of this article is to examine the relevance of HR audits in today's world for ensuring employee productivity.

LITERATURE REVIEW

HR audit is a systematic process of examining HR policies, practices and procedures to ensure compliance with laws and regulations and to identify areas for improvement (*Kumar & Sharma,* 2015). There are various types of HR audits, including compliance, strategic, and functional (*Khan,* 2020). Compliance audits focus on ensuring compliance with laws and regulations, while strategic audits assess the alignment of HR practices with organizational goals. Functional audits examine specific HR functions such as recruitment, training, and compensation (*Bashir & Malik,* 2019). The HR audit process typically involves several steps, including planning, data collection, analysis and reporting (*Bhatnagar & Sharma,* 2019). The benefits of HR audit include enhancing compliance, identifying areas for improvement, aligning HR practices with organizational goals, and enhancing organizational performance (*Bashir & Malik,* 2019).

The relationship between HR audit and employee productivity has been explored in several studies. HR audit can have a positive impact on employee productivity by identifying areas for improvement, enhancing compliance with laws and regulations and aligning HR practices with organizational goals (*Bashir & Malik,* 2019). A study by *Riaz, Anwar, and Mahmood* (2021) found that HR audit positively affects employee productivity by improving HR policies and practices. The study also found that HR audit enhances the satisfaction and motivation of employees, which, in turn, improves productivity.

According to *Banjoko* and *Oyewunmi* (2017), HR audit is a process that involves evaluating an organization's HR policies, procedures and practices to determine their effectiveness and compliance with laws and regulations. The authors argue that HR audits can help organizations identify areas of weakness and opportunities for improvement, which can enhance employee productivity. Moreover, HR audits can provide valuable insights into employee satisfaction, engagement, and retention, which are critical factors for ensuring long-term productivity.

In a similar vein, *Kalaiarasi* and *Prasanna* (2016) assert that HR audits can help organizations improve their human resource management by identifying gaps in training and development, performance management, and recruitment and selection processes. The authors argue that by addressing these gaps, organizations can enhance employee skills and competencies, which can increase their productivity and overall performance.

Furthermore, *Jahanzeb, Fatima,* and *Khan* (2021) argue that HR audit can help organizations to ensure compliance with labour laws and regulations, which can reduce legal and financial risks. The authors contend that HR audit can also help organizations identify and address issues related to employee health and safety, which can improve employee well-being and productivity. In addition, *Darmayanti, Rachman,* and *Salim* (2019) posit that HR audit can help organizations improve their HR information systems, which can enhance their ability to monitor and manage employee performance. The authors argue that by leveraging technology, organizations can track employee productivity and identify areas of improvement, which can help them make data-driven decisions to enhance productivity. Moreover, *Madusanka* and *Samarakoon* (2018) contend that HR audit can help organizations enhance their employer brand, which can attract and retain high-performing employees. The authors argue that by conducting regular HR audits, organizations can demonstrate their commitment to employee well-being and fairness, which can improve their reputation as an employer of choice.

According to a recent study by *Deloitte* (2021), HR audit can help organizations align their HR strategies with business objectives, which can improve employee productivity and overall performance. The study found that organizations that conduct regular HR audits are more likely to have effective HR policies and practices that align with business goals.

METHODOLOGY

To examine the views of HR professionals on the relevance of HR audit for ensuring employee productivity, a survey was conducted. The survey consisted of 10 questions, including closed-ended and open-ended questions.

MAJOR OBJECTIVES OF THE STUDY

- To investigate the perceptions of HR professionals regarding the relevance of HR audit for ensuring employee productivity.
- To examine the relationship between HR audit and employee productivity.
- To test the hypothesis that the relationship between HR audits and employee productivity is mediated by employee engagement and HR policies and practices.
- To provide insights for organizations to improve their HR practices and enhance employee productivity through HR audit.

The survey questionnaire was distributed to HR professionals working in various organizations, including public and private sector organizations, and non-profit organizations. The sample size was 40 and the response rate was 75 per cent. Thus the responses given by all 30 professionals were analysed.

FINDINGS AND ANALYSIS

We conducted a survey of 30 HR professionals to explore their perceptions of the relevance of HR audit in today's world for ensuring employee productivity. The survey included closed-ended questions with a five-point Likert scale and open-ended questions. The survey results indicated that HR professionals perceive HR audit as a relevant tool for ensuring employee productivity. About 90 per cent of the HR Managers agreed that HR audit can identify areas for improvement and enhance compliance with laws and regulations. Similarly, 85 per cent of the respondents agreed that HR audit can align HR practices with organizational goals, and 75 per cent of the respondents agreed that HR audit can enhance employee productivity. The open-ended responses indicated that HR professionals perceive HR audit as an important tool for improving HR practices, ensuring fairness and consistency and enhancing employee satisfaction and engagement.

HYPOTHESIS TESTING

To test the hypothesis that HR audit is positively related to employee productivity, regression analysis was conducted. The dependent variable was employee productivity and the independent variables were HR audit, employee engagement and HR policies and practices.

TABLE 1

REGRESSION ANALYSIS

Predictors	***B***	***SE***	***Β***	***T***	***p-value***
Constant	3.25	0.68		4.79	< .001
HR Audit	0.61	0.10	0.45	6.05	< .001
Employee engagement	0.27	0.09	0.17	2.87	0.004
HR policies and practices	0.30	0.08	0.20	3.72	< .001

Note: The dependent variable is employee productivity.

The results indicate that HR audit has a significant positive effect on employee productivity ($\beta = .45$, $p < .001$), after controlling the effects of employee engagement and HR policies and practices. This suggests that organizations that conduct regular HR audits are likely to have higher employee productivity. Additionally, employee engagement and HR policies and practices are also significant predictors of employee productivity ($p < .05$).

Based on the above finding and to cross-verify the role of HR audit on employee productivity, a mediation analysis was also conducted to test the hypothesis that the relationship between HR audit and employee productivity is mediated by employee engagement and HR policies and practices. The results of the mediation analysis indicated that both employee engagement ($\beta = .23$, $p < .05$) and HR policies and practices ($\beta = .32$, $p < .01$) mediate the relationship between HR audit and employee productivity. This finding suggests that HR audit can enhance employee engagement and improve HR policies and practices, which, in turn, can improve employee productivity.

TABLE 2

MEDIATION ANALYSIS

Variables	***Β***	***p-value***
Direct effect	0.42	< .001
Mediation effect		
Employee engagement	0.23	< .05
HR policies and practices	0.32	< .01

Note: The direct effect refers to the relationship between HR audit and employee productivity, while the mediation effect shows the impact of employee engagement and HR policies and practices on the relationship between HR audit and employee productivity.

Based on the findings, both employee engagement and HR policies and practices mediate the relationship between HR audit and employee productivity. The indirect effects of HR audit on employee productivity through employee engagement and HR policies and practices are significant, as indicated by the p-values. This suggests that improving HR audit can lead to enhanced employee engagement and better HR policies and practices, which in turn can improve employee productivity.

In addition to the regression and mediation analyses, a correlation analysis was conducted to examine the relationships between the variables. The results are shown in the following table.

TABLE 3

VARIABLE CORRELATION WITH EMPLOYEE PRODUCTIVITY

HR Audit	0.60**
Employee engagement	0.36**
HR policies and practices	0.43**

**p < .01

The results indicate that all three independent variables are significantly correlated with employee productivity ($p < .01$). Specifically, HR audit has the strongest correlation with employee productivity ($r = 0.60$), followed by HR policies and practices ($r = 0.43$) and employee engagement ($r = 0.36$).

These findings suggest that there is a positive relationship between HR audit, employee engagement, HR policies and practices and employee productivity. Organizations that conduct regular HR audits and have strong HR policies and practices and high levels of employee engagement are likely to have higher levels of employee productivity.

The survey results indicates that HR audit can have a positive impact on employee productivity by improving HR policies and practices, ensuring compliance with laws and regulations, and enhancing employee satisfaction and engagement. The findings are consistent with previous research on the subject, which suggests that HR audit can enhance organizational performance by improving HR practices (*Bashir & Malik,* 2019; *Riaz* et al., 2021).

Overall, the results of the regression, mediation and correlation analyses provide support for the hypothesis that HR audit is positively related to employee productivity and suggest that organizations can improve employee productivity by conducting regular HR Audits, enhancing employee engagement, and improving HR policies and practices

DISCUSSION

The survey results confirm the literature review findings that HR audit is relevant for ensuring employee productivity. The results also highlight the benefits of HR audit, including identifying areas for improvement, enhancing compliance with laws and regulations and aligning HR practices with organizational goals. The survey results also indicate that HR audit can have a positive impact on employee productivity by identifying training needs, enhancing employee engagement, and improving performance management.

The survey results also identify some challenges in conducting HR audit, including lack of resources, resistance from top management and lack of expertise. These challenges suggest that organizations need to invest in HR audit capabilities, including training and development of HR professionals and allocation of resources for conducting HR audit.

IMPLICATIONS FOR PRACTICE

Based on the survey results, organizations should consider conducting periodic HR audits to ensure compliance, identify areas for improvement, and align HR practices with organizational goals. Organizations should also invest in HR audit capabilities, including training and development of HR professionals, and allocation of resources for conducting HR audit. Organizations should also involve top management in the HR Audit process and communicate the benefits of HR audit to them.

FUTURE RESEARCH

Future research could explore the impact of HR audit on other organizational outcomes, such as employee retention, job satisfaction and organizational performance. Future research could also explore the effectiveness of different types of HR audits, such as compliance, strategic, and functional, on employee productivity. Finally, future research could examine the role of HR technology in enhancing the effectiveness of HR audits.

CONCLUSION

HR audit is a valuable tool for organizations to evaluate and improve their HR policies, practices, and procedures. The findings of this study indicate that HR audit is relevant for ensuring employee productivity by improving HR practices, enhancing compliance, and aligning HR practices with organizational goals. HR professionals perceive HR audit as an important tool for improving HR practices, ensuring fairness and consistency, and enhancing employee satisfaction and engagement. Practitioners should consider conducting regular HR audits to enhance organizational performance and future research should explore the effectiveness of different types of HR audits and their impact on organizational performance.

HR audit is a crucial tool for ensuring employee productivity in today's world. HR audit can help organizations identify areas of weakness and opportunities for improvement, which can enhance employee skills, well-being, and engagement. Moreover, HR audit can help organizations ensure compliance with laws and regulations, reduce legal and financial risks, and enhance their employer brand. Therefore, organizations should prioritize HR audit as a strategic HR management practice to achieve long-term success. MA

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BUILDING BLOCK FOR SUSTAINABLE SUCCESS: ENVIRONMENTAL, SOCIAL AND GOVERNANCE THROUGH GOOD GOVERNANCE

Abstract

Environmental, social, and governance (ESG) is parameters aiming at sustainability by focusing on how a business should perform their operations keeping mind the distress they cause to the community.The environmental criteria require to align the activities to the restore the environment, The social criteria aim to behave in a fashion to regulate agitation among society and maintain cordial connection with workers, consumers,and suppliers.The 'G' in ESG stands for governance and seeks the attention on regulating the acts by take notice of ethical practices, following rules, setup and maintain standards of moral and responsible leadership. The G parameter not only amounts to one-third of the ESG equation, but good governance also has wide influence on realizing the sustainability objective fruitfully. There is far-reaching impact of governance on the venture of the organization makes it so important gain awareness about the essence of 'G' aspect. Read on to understand the sense significance and ways to carry off "good governance" aspect of ESG.

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INTRODUCTION

Corporate ESG (environmental, social, and governance) performance has gained attention due to growing sustainability concerns. ESG investing funds had been widely accepted and had even begun to conquer the general market. Governments have started to consider and implement rules and policies for corporate ESG disclosures. The boost of interest in ESG has quickly increased the stakes of non-financial corporate performance and has resulted in the evolution of a web of ESG reporting and rating frameworks that have blazed overflow of ESG-related commitments and promises from corporate players throughout the globe. While the "G" in ESG, or corporate governance, has received relatively little attention, much of the energy has been on environmental performance and some social metrics, such as diversity, inclusion etc. Company governance behaviours focusing on organisational structure, Board diversity, corporate morals and anti-corruption are not given the required seriousness, which has caused disorganization regarding the nature and function of corporate governance within the ESG frameworks.

This article will explore the importance and approach to achieve sustainable success through building good corporate governance.

WHAT IS ESG?

ESG refers to environmental, social, and corporate governance factors to be taken into account by companies when conducting operations. It can be called the plan of action whereby a business boosts its reputation, maintains long term value and builds a resilient operation focusing on non-financial parameters i.e., environmental, social, and corporate governance rather than just maximising revenues.

The term *environmental* refers to the performance of operations in a fashion leading to minimising the harmful impact on environment. The businesses need to align their activities to safeguard environment in connection with climate change and carbon emissions management, natural resource management, pollution control, energy use, waste management etc.

Social refers to the footprints of company's actions on individuals and society. Companies must focus on managing steps which are socially responsible, contribute to positive human capital relationships, maintain health and safety, human rights, diversity and racial and gender equality, employee safety and social justice issues. It includes monitoring mechanisms on social concerns issues including data security, employee and staff recruitment, retention, engagement, training and development to create value and improve public trust.

Governance refers to the manner in which the company is run. It involves building of robust organization leadership, regulate executive pays, and enhance the internal controls and audits. Focusing on governance factors addresses the questions such as How is the Board's business conducted? What are the safeguards against bribery and corruption and auditing procedures? How does the company engage in political campaigns? What are the checks in following the regulatory compliances to provide value to stakeholders? With an effective ESG strategy in terms of risk, impacts and oversight, the four basic principles of accountability, transparency, fairness and responsibility are realized.

WHAT DOES THE "G" STAND FOR IN ESG?

The "G" in ESG stands for decision-making on governance, made up of the behaviour, control and accountability of board of directors, management, shareholders, and stakeholders. Corporate governance frameworks revolve around the purpose of a company, the activities and makeup of the Board of directors, and the compensation and oversight of senior executives, thus focusing on accountability, transparency, fairness and responsiveness in the functioning and formulation of sovereign policy.

> **ESG governance is all about balancing corporate choices to benefit environmental and social groups equally**

ESG governance is all about balancing corporate choices to benefit environmental and social groups equally as the organizational returns. It calls for the attention of managers on a governance-focused approach for business decisions along with accountability, honesty, and corporate responsibility of all management practises and politics which delivers on the assurance on benefit of human rights, legitimacy and crystal-clear access to knowledge, information, pivots empowerment of people, equity, sustainability, along with attitudes and values that foster responsibility, solidarity and tolerance.

NEED TO FOCUS ON "G" ASPECT.

The G not only constitutes one-third of the ESG equation, but it also lays the major foundation for the realization of both the E and S parameters fruitfully. Unsuccessful corporate governance in terms for failure to implement anti-corruption policies, adopting biased compensation and incentive structure, powerless and incompetent leadership, embracing undesired and illegal ways to venture activities and projects and being after wealth maximization could be the main causes for overlooking and non-compliance of environmental or social responsibilities resulting in loss of the reputation of the company. History gives us many examples of ineffective and week standards of corporate governance which have been the root-cause for serious scandals and violation of laws. The influence and gravity of G parameters makes it essential to reckon governance risks and opportunities while making decisions and establish good governance. Thus, efficacious governance alters the organization's mission, standing and position in the society.

Efficient corporate governance bargain gives way to moral and ethical practices leading to righteousness of ESG disclosures. It counts on controlling and determining the practice and demonstration of ESG parameters or indicators in a conscientious manner.

No matter the size or sector, a company has a wide range of stakeholders to satisfy: Government agencies, top management and executives, clients and the community, employees and staff, suppliers and business partners.With a well organised, structured and fair ESG governance set up the company aims to assist the stakeholders and ensure their welfare.

In exchange for an ESG integrated corporate governance strategy, the business draws the following advantages:

- **The clients**: Buyers are more likely to support businesses where the governing body is responsive and committed to bear in mind the social or environmental concerns. Businesses that have effective ESG governance easily incorporate ESG principles into their operations to find potentials for cost savings, experience low energy use, less resource waste and overall lower operating expenses leading to lowering of the product costs and gaining more loyalty of customers. Customers prefer to pick and endorse a company that shares their own beliefs and are transparent, ethical in functioning and effectively communicate their ESG efforts to customers.

- **The investors**: Investors are interested to finance and be a part of ventures and operations where the governing body is alert, knowledgeable, and active and operates ethically and with accurate and transparent disclosure of financials. They favour businesses with accountable and accomplished Boards of directors, well established controls as well as policies that promote shareholder engagement. They focus and weigh the good governance position from environmental and social aspects. The term "good corporate governance" refers to a broad range of practises that include a company's rules, standards, information disclosure, audits and compliance, as well as Board and management structures. Further, organizations find themselves at a risk of being excluded from the funding league by negative screening when bringing into play unethical, unlawful, and unacceptable policies and procedures. Over and above, the investors have started linking corporate performance to ESG ratings since their commitment to ESG leads to long-term value creation for the firm and future returns.
- **Government regulators**: Ethical governance practice discharges prompt compliance and punctual reporting requirements and bring themselves into praise-worthy position which in return fetch them assistance and backing from Government to maintain their sustainable position. A strong ESG offering helps companies to expand into existing markets and enter new ones, increasing shareholder value. Governments are more likely to grant access, rights, and licences that open up new growth opportunities when they have trust in business actors. Businesses that deliver more external value can achieve more strategic independence while facing less regulatory pressure. In fact, across industries and locations, it has been discovered that good ESG helps businesses reduce their risk of unfavourable Government action. It may possibly receive Government support. Organizations that the Government deems to pose a risk to the environment or society as a whole are subject to strict regulations.
- **The supply chain**: Over the years the main points of distress in supply chains were hiccups in technical quality, mess with cost effectiveness, trouble with speed of delivery, obstruction of shortages of raw material and depletion of natural resources, corruption, bribery etc. With sustainability factors and ethical governance practice increasingly gaining importance business entities are gaining reputation and earning more customers.

  At present, those charged with governance acting proactively on the implementation of ESG supply chain find themselves in a position to have full and effective control over operations. In other words, directing their attention help them to dive deeper down on the functioning of supply chain and figure out all the undesirable modus operandi in practice employed by them or their suppliers, enabling them to take timely action and switch to sustainable and better supply chain performance. For example, gaining deeper insight into where and how materials are sourced allows a manufacturer to make sure that materials aren't produced by employing child labour, and don't negatively impact environmental sustainability. In that way, effective supply chain ESG solutions allow a manufacturer mitigate the risks by anticipating where future supply chain shortages or redesigns may occur.

  On the other hand, it helps in improving supply chain management systems; understanding the environmental, social and economic impacts of a company's products and services along the entire life-cycle is key to identify potential risks. Key performance indicators for suppliers help understanding and managing these risks. Contracts with suppliers that include codes of conduct and incentive plans can raise the awareness and eventually improve their performance. To successfully manage current and emerging ESG supply chain risks, coordination with industry peers, civil society, and regulatory bodies is also crucial.

HOW TO IMPLEMENT POSITIVE GOVERNANCE ASPECT UNDER ESG

While ESG issues are gaining more and more importance and acceptance the governance component is occasionally overlooked. But it lays the groundwork for long-term value creation and supports an organization's ability to achieve its environmental and social goals. The focus has mostly been on the "E" and, more recently, on the "S" components, even if the expansion of ESG has contributed to the birth of a new age of stakeholder capitalism based on the idea of long-term value creation for everyone. In recent years, social movements and environmental imperatives have elevated these issues to the top of the corporate agenda.

Where ESG is the structure of all the non-financial risks which have a significant impact on the stakeholders of an organization, there corporate governance is the methodology to manage those risks. For a good ESG governance technique, it is imperative to recognize the risks associated with governance and work towards maintaining good governance practices by focusing on the following points.

- **Composition of the board of directors-** Having a diverse Board comes with a bundled advantage. It offers a wider perspective, renders more accurate decisions, promotes innovation, is more agile, and more accurately represents the company's shareholders, customers, and community. No doubt the financial performance of the organisation benefits from enlightened Board and on top of that on account of the more informed personals the selections become better creating a stronger ability to satisfy the requirements of clients, investors, staff, and the society.

  For effective governance posture, first and foremost, a good Board must have a majority of independent members, with vast experience and competence in the core operational areas of the organisation. Further, the establishment of a committee (or many committees) tasked with risk oversight of the business' "mission important" activities and hazardous acts are a second related action. Thirdly, there should be a structured mechanism in place for the Board to: (1) identify the main risks the firm faces; (2) notify the Board of significant risk concerns or "red flags"; and (3) proactively resolve any oversight gaps or shortcomings in terms of risk management.

- **Compliance–** Governance is all about setting the standards and executing the policies and ensuring the compliance thereof. The quality of this"G" aspect comes from focus on company's moral behaviour, laying down, adopting and observing the policies that are in the best interests of its stakeholders and develop the ability to avoid having a harmful influence on the environment or society. As a result, without the righteous "G," there can be no "E" or "S" in a corporate notion. Thus, directing the course of action towards adherence to ethical policies and regulations is the key to good governance. The caretakers of "G" should be duty bound to make impartial information disclosure, auditing, accounting and regulatory compliance. Failure to fulfil these obligations might endanger the business's standing, earnings and long-term existence.

  The Board's centre of attention must grab the anti-corruption and integrity in practice and actions. Execution of fair and competitive game plan containing the implementation of anti- collusion, anti-exclusion, anti- monopoly, anti-coercion and market-based pricing strategy is essential for effective compliance. .

  Efforts must be directed towards inculcating training and communication, adoption of whistle blower protocols, conducting unbiased due diligence and risk assessment, uphold cordial and transparent government relations, maintain lawful record keeping, financial controls, reporting and accounting, fulfil all the contractual obligation, incline towards timely internal investigation and remediation.

- **Legal observance-** The prominence of the "G" strand appears when a company complies with all legal requirements. A good governance strategy is one which makes the business to reveal its activities in a transparent manner understand the regulations or principles and align the governing conduct or procedure to stick to and follow the directions and lastly, allow audits to hold it responsible for any noncompliance. Poor observance generally may result in cash losses through fines and penalties, as well as reputational loss.

- **Executive compensation–**The compensation, whether it is related to employees or those charged with management, must be commensurate with the performance, experience and capability. In the past we have seen the deals worth millions of dollars in remuneration for CEOs and management, especially those seen to be underperformers, have gathered media attention and caused loss of reputation. Thus, it becomes the liability of the management personnel to justify their earnings by showing positive results in their rather than just focusing on personal wealth maximization.

- **Business Ethics –** The Board, to be effective, must take measures to ensure that the organization is functioning for ethical purposes, moral values, culture and integrity beyond just compliance. Business ethics is that which deals with moral conundrums or contentious situations that a corporation may be facing. A set of policies and processes that foster consumer trust are to be focused as corporate ethics. Corporate ethics may be written into the law such as minimum salaries, limitations on insider trading and environmental rules, while the most important ones are those which flow from managerial style, and these have a severe repercussions for the entire organisation.. It takes time and effort to cultivate an atmosphere where moral behaviour and judgement are valued and it always starts at the top. Everyone from executives, managers, to workers ought to follow business ethics in their everyday decision making, working and behaviour.

  For instance, if there is Board vigilance and oversight a business can never choose to throw away chemical waste that it cannot afford to properly dispose of on empty land in the neighbourhood. Such an irresponsible behaviour can irreparably harm the reputation of the company apart from causing damage to the environment and the society,

  Generally, there are about 12 ethical principles which need to be given emphasis and prominence: honesty, fairness, leadership, integrity, compassion, respect, responsibility, loyalty, law-abiding, transparency, and environmental concerns.

- **Risk and Crisis Management-** Another crucial aspect to be focused is the preparedness of the management to face and mitigate the crisis. It is true that a Board cannot be expected to foresee every disaster and predict risks. But effective governance does entail constituting a group that is equipped to handle crises .The management must be careful and anticipate the possible risks by performing regular social, health and financial checks keeping an eye on past performance and not repeat the mistakes by having regular fair and independent audits.

  Further there should be a documented crisis management plan which should be consistently followed and referred to, conducting at least one Board-level crisis exercise each year. There should also be in existence a procedure for informing important investors and stakeholders in case of occurrence of any crisis.

Governance issues don't have a "one size fits all" answer. Companies have to spend time to identify and address specific issues and demands impacting their business in order to strengthen the good governance piece of work.

CONCLUSION

There is a close relationship and interdependence of all the three ESG elements. Governance has a significant impact on CSR because more sincere and open CEOs and Board members have a better grasp of societal issues that are important to the brand. More the attention on the "G" aspect the more worthy and impactful will be the decisions and the organization will be able to meet the needs of customers, investors, employees, and the community as a whole. Governance enables compiling data, assessing and quantifying the social and environmental responsibilities and determining how to effectively comply with the laws that enhance a company's reputation. ESG compliance reporting is likely to evolve in the future and the "E" and "S" aspects when all said and done will converge into "G." MA

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STRUCTURED DIGITAL DATABASE UNDER SEBI (PROHIBITION OF INSIDER TRADING) REGULATIONS, 2015

Abstract

The Securities and Exchange Board of India (SEBI), over the past three decades, has been in the forefront of various reforms in relation to securities market, including insider trading. The new SEBI (Prohibition of Insider Trading) Regulations, 2015 (PIT Regulations) is a major improvement over its predecessor formulated in 1992. One of the new reforms in the SEBI PIT Regulations is the Structured Digital Database. This article deals with compliance mechanism for ensuring the same and its related content.

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Background

It is said that the world's most difficult white collar crime to prove is insider trading. Regulators around the world have been racking their brains to bring in policy and enforcement measures to crack and tackle insider trading in securities markets and to prohibit insider trading in corporates and other organizations.

It is preposterous to expect a person to admit insider trading or that they passed on vital Unpublished Price Sensitive Information (UPSI).

The Securities and Exchange Board of India (SEBI), over the past three decades, has been in the forefront of various reforms in relation to securities market, including insider trading. The new SEBI (Prohibition of Insider Trading) Regulations, 2015 (PIT Regulations) is a major improvement over its predecessor formulated in 1992. One of the new reforms in the SEBI PIT Regulations is the "Structured Digital Database".

Fair Market Committee of SEBI:

In August 2017, a Committee on Fair Market Conduct was constituted by SEBI under the Chairmanship of Ex-Law Secretary Shri T.K. Viswanathan. The committee's terms of reference inter-alia, was to:

- "review the existing legal framework to deal with market abuse to ensure fair market conduct in the securities market and;
- review the surveillance, investigation and enforcement mechanisms being undertaken by SEBI to make them more effective in protecting market integrity and the interest of investors from market abuse."

The report submitted by the Committee in August 2018, recommended changes to several regulations, including the SEBI PIT Regulations. One of the recommendations was the Structured Digital Database to have a check on the UPSI. The Committee, in its report, justified the need for the SDD as follows:

"....once the information is shared with these outsiders, the company has no control over it. Therefore, the company must keep track of the first level of recipients, such that, if investigation so needs it, the company can establish a trail. Each of the fiduciaries, likewise, are supposed to be answerable for the integrity and protection of the confidentiality of the information received by them."

Evolution of "Structured Digital Database"

Regulation 3(1) of the SEBI PIT Regulations[1] states that

"No insider shall communicate, provide, or allow access to any unpublished price sensitive information, relating to a company or securities listed or proposed to be listed, to any person including other insiders except

[1] *https://www.sebi.gov.in/web/?file=https://www.sebi.gov.in/sebi_data/attachdocs/dec-2022/1670301196721.pdf#page=1&zoom=page-width,-16,792*

where such communication is in furtherance of legitimate purposes, performance of duties or discharge of legal obligations."

Under the regulation, SEBI has provided a specific clarification. The provision has been enacted to make all insiders (people who are in possession of the "Unpublished Price Sensitive Information" (UPSI)) obligatory to handle such UPSI with care. They are also obligated to deal with such information that is in their possession strictly on a need-to-know basis when transacting their business. SEBI has further clarified that its intent is to develop organization's developing practices based on need-to-know basis.

Regulation 3 (2) of the SEBI PIT Regulations states as under:

"No person shall procure from or cause the communication by any insider of unpublished price sensitive information, relating to a company or securities listed or proposed to be listed, except in furtherance of legitimate purpose, performance of duties or discharge of legal obligations."

Under this regulation too, SEBI has provided a specific clarification. SEBI has clarified that this provision is intended to prohibit unlawfully procuring possession of UPSI. Thus, according to this provision, obtaining any UPSI that is not in the nature of fulfillment of one's official duties and discharge of obligations, would not be legal.

Towards having a check on the UPSI by a company and to assist a compliance officer in this regard, on April 1, 2019, the concept of a Structured Digital Database was introduced by SEBI.

It earlier read as under:

"The board of directors shall ensure that a structured digital database is maintained containing the names of such persons or entities as the case may be with whom information is shared under this regulation along with the Permanent Account Number or any other identifier authorized by law where Permanent Account Number is not available. Such databases shall be maintained with adequate internal controls and checks such as time stamping and audit trails to ensure non-tampering of the database."

With effect from July 17, 2020, this provision was replaced with the following:

"The board of directors or head(s) of the organisation of every person required to handle unpublished price sensitive information shall ensure that a structured digital database is maintained containing the nature of unpublished price sensitive information and the names of such persons who have shared the information and also the names of such persons with whom information is shared under this regulation along with the Permanent Account Number or any other identifier authorized by law where Permanent Account Number is not available. Such database shall not be outsourced and shall be maintained internally with adequate internal controls and checks such as time stamping and audit trails to ensure non-tampering of the database."

Further, Regulation 3(6) was also inserted as under:

"The board of directors or head(s) of the organisation of every person required to handle unpublished price sensitive information shall ensure that the structured digital database is preserved for a period of not less than eight years after completion of the relevant transactions and in the event of receipt of any information from the Board regarding any investigation or enforcement proceedings, the relevant information in the structured digital database shall be preserved till the completion of such proceedings."

What is a Structured Digital Database?

In a nutshell, a Structured Digital Database is:

1. "A mechanism to prevent insider trading;
2. A database of UPSI, shared internally or externally, with the intent of keeping track as to who all were in the know of such UPSI;
3. A mechanism that contains two important data points:
   - Details of the Unpublished Price Sensitive Information (UPSI);
   - Details of persons with whom such UPSI is shared (along with their PANs/other unique identifier) and details of persons who have shared the information.
4. Databases/servers provided by third party vendors whether within India or outside India will be considered is outsourced;
5. Irrespective of the fact that information is shared within or outside the Company, requisite records shall be updated in Structured Digital Database as and when the information gets transmitted;
6. If nominee directors of the company fall under the list of designated persons or as an insider, then sharing of UPSI by them for legitimate purpose with the Bank/FIs, would be

considered as communication of UPSI. Accordingly, the same would be recorded in the SDD of the company[2];

7. The data on the Structured Digital Database is required to be maintained for three years;
8. Every listed entity as well as an entity required to handle UPSI as a fiduciary or intermediaryis requiredto maintain a Structured Digital Database."

Restriction on Contra Trades as per Minimum Standards for Code of Conduct

The code of conduct of the Listed Entity shall specify time frame, which in any event shall not be less than 06 months, within which a designated individual who is allowed to trade shall not execute a contra trade. However, the Officer who is incharge of Compliance may be authorized to grant relaxation from strict application of such restriction for reasons to be recorded in writing if that such relaxation does not violate SEBI PIT Regulations. Should a contra trade be executed, inadvertently or otherwise, in violation of such a restriction, the profits from such trade shall be accountable to be disgorged for remittance to the Board for credit to the Investor Protection and Education Fund administered by the Board as per the Act.The restriction on Contra Trade shall not hold good for trades pursuant to exercise of stock options.

The code of conduct shall specify such formats as the board of directors deem essential for making applications for pre-clearance, reporting of trades executed, reporting of decisions not to trade after securing pre-clearance and for reporting level of holdings in securities at such intervals as may be determined as being necessary to monitor compliance with SEBI PIT Regulations.

[2] *https://www.sebi.gov.in/enforcement/clarifications-on-insider-trading/apr-2021/comprehensive-faqs-on-sebi-pit-regulations-2015_49999.html*

Benefits of maintenance of "Structured Digital Database" through Software:

On maintenance of Structured Digital Database through Software, the listed entity shall be able to ensure the following:

- The listed entity is in compliance with the SEBI PIT Regulations, 2015 read with relevant circulars and amendments issued by SEBI from time to time.
- The Software becomes an automated solution to manage and track compliance related to Prohibition of Insider Trading and helps the Compliance Officer to practice the regulation in true letter and spirit.
- The Software shall provide for adequate internal controls and checks with time stamping and audit trails to ensure non-tampering of the database as required under Reg. 3 (5) of SEBI PIT Regulations, 2015.

Analysis Points for maintenance of "Structured Digital Database":

The under mentioned Regulations and Schedules of SEBI PIT Regulations, 2015 are to be complied for robust system maintenance of "Structured Digital Database":

- "Regln. 3 on Communication or procurement of unpublished price sensitive information;
- Regln. 4 on Trading when in possession of unpublished price sensitive information;
- Regln. 6 on General Provisions with respect to disclosures of trading by insiders;
- Regln. 7 on Initial Disclosuresand Continual Disclosures by certain persons;
- Regln. 9 on Code of Conduct;
- Schedule A on Principles of Fair Disclosure for purposes of Code of Practices and Procedures for Fair Disclosure of Unpublished Price Sensitive Information;
- Schedule B on Minimum Standards for Code of Conduct for Listed Companies to Regulate, Monitor and Report Trading by Designated Persons; and
- Schedule C on Minimum Standards for Code of Conduct for Intermediaries and Fiduciaries to Regulate, Monitor and Report Trading by Designated Persons."

Global equivalents:

Prohibition of Insider Trading Laws around the world is heavily customized in relation to the business practices as well as culture. Moreover, there are few countries like India that have such an evolved securities market law. It is seen that an equivalent, though not wholly similar, of the Structured Digital Database can be seen in the European Union.[3]

"Issuers and any person acting on their behalf or on their account, shall each:

- *draw up a list of all persons who have access to inside information and who are working for them under a contract of employment, or otherwise performing tasks through which they have access to inside information, such as advisers, accountants or credit rating agencies (insider list);*
- *promptly update the insider list in accordance with paragraph*

[3] *https://lexparency.org/eu/32014R0596/ART_18/*

4; and

- *provide the insider list to the competent authority as soon as possible upon its request"*

Sharing of UPSI:

SEBI has clarified that in case a listed company / market participant chooses to share UPSI for "*legitimate purpose*", they"*should serve a notice on, or sign a confidentiality/ non-disclosure agreement with, the person with whom UPSI is shared, informing him/her that he has to ensure the compliance of the Regulations while in possession of UPSI shared with him/her"*.

It may be remembered that the intent of maintaining a Structured Digital Database is that there is a record of the information flow of such UPSI.

Institutional Mechanism for preventing Insider Trading:

The PIT Regulations, in addition to the above, also require that "the Chief Executive Officer, Managing Director or such other analogous personof a listed company, intermediary or fiduciary shall put in place adequate and effective system of internal controls to ensure compliance with the requirements given in these regulations to prevent insider trading."

The internal controls shall ensure:

- "that all employees who have access to the UPSI are identified as *designated persons;*
- that all the UPSI will be identified and confidentiality shall be maintained as per the PIT Regulations;
- that adequate restrictions will be placed on communication or procurement of UPSI as per the PIT Regulations;
- that the lists of all employees and other persons with whom the UPSI is shared will be maintained and confidentiality agreements shall be signed or notice shall be served to all such employees and persons;
- that there is a periodic process review to evaluate effectiveness of such internal controls."

White collar crimes have become more innovative and the regulation needs to get armed to combat such crimes

The listed entity, while ensuring that there are adequate written policies for inquiry in case of a leak of UPSI, also has a fiduciary duty to report any leak in the UPSI and co-operate with SEBI.

Certification:

Data Maintained in Structured Digital Database should be in compliance with the requirement as specified under Reg. 3 (5) of SEBI PIT Regulations, 2015read with Circulars issued by SEBI and Compliance of the same should be certified either by the Compliance Officer or a Practicing Company Secretary (PCS) every quarter and has to be submitted to the Stock Exchange.

Disclaimers on Maintenance of Structured Digital Database:

- The contents entered by the users of the Software shall be the responsibility of the Listed Entity.
- Any compliance requirement specific to the Internal Policy on Prohibition of Insider Trading as approved by the Board of Directors of the Listed Entity, shall be the responsibility of the Entity.
- Any future development in the contents of the Software may be in line with future amendments / clarifications by SEBI / Stock Exchanges on any compliance requirement as per SEBI (Prohibition of Insider Trading) Regulations, 2015, which shall be the responsibility of the Listed Entity.
- The Listed Entity shall educate / inform the users (Employees / Key Managerial Personnel / Directors / Promoters etc.) about the contents of the Software and any implication due to ignorance on compliance requirement on maintenance of "Structured Digital Database" as required under Regulation 3 (5) of SEBI (Prohibition of Insider Trading) Regulations, 2015 shall be the responsibility of the listed entity and the user of the software, as the case may be.

Concluding remarks:

The Structured Digital Database is another product of the ever-evolving securities market. White collar crimes have become more innovative and the regulation needs to get armed to combat such crimes and impose punishments so that they act as deterrents to others with a similar mindset. It is believed that "Structured Digital Database", would ensure fair conduct of market and to protect the interest of investors in securities markets. MA

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SEBI Regulations and related contents have been referred while preparing the said article

APPLICATION OF SURROGATE ACCOUNTING IN COST EFFECTIVENESS, PROFITABILITY, AND PRODUCTIVITY

Abstract

A "surrogate" is someone or anything who acts in another person's place. The use of "surrogate accounting" enables businesses to more easily provide both core and operational services. It is a good strategy and effective approach for replacing traditional methods of accounting and using alternative new techniques.

The focus of this article is to assess how surrogate accounting adaptations affect companies' productivity, profitability, and cost-effectiveness. Applying regression analysis, it was found that the management of assets, consulting, Capex models, technology adoption, and business models are the most important accounting and business services of surrogate accounting to influence the financial performance of the firm. The model was tested with the Structural Equation Modeling (SEM) technique. It is found that surrogate accounting will enable organizations to control the cost and improve value addition.

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Introduction

A surrogate is someone who stands in for another person. In most fields, including medicine, assessing traffic safety, entrepreneurship, universities, business schools, risk assessment, and human resource performance, the word "surrogate" is used. India is at the top of the list of global surrogate accounting and business service providers. According to a global outsourcing survey published by Deloitte, 67% of executives say their budget for operational services would expand, and nearly 52% of executives use stand-ins for business operations. (https://www2.deloitte.com).Recently, "Yes Bank" announced a special lending program called the "surrogate lending program" through which an MSME can obtain secured working capital limits from Rs. 1 to 3 crore in the form of Overdraft (OD), Letter of Credit (LC), and Financial Bank Guarantees. In this program, financial statements are not required for lending clients. Credit evaluations are based on information gleaned from GST reports and MSME operational bank accounts. For our consumers, it will make the credit application process easier and quicker. This announcement is an example of surrogate banking and finance. (https://economictimes.indiatimes.com)

Surrogate Entrepreneurs may be a mechanism to enable universities to realize their potential in the creation of spin-out companies. Surrogate financers, industrialists, and start-up entrepreneurs' are the need for an era where the founders have both types of expertise or if one has to make a choice; the founders should have the market development and financial expertise to create the new technology start-ups.

It provides a thorough understanding of the organization's financial situation and keeps meticulous records of all financial activities within the company. The study links accounting to surrogates. Accounting itself needs modern methods. Surrogate accounting can be viewed as the use and adaptation of methods for recording or reporting purposes as well as to simplify the accounting process and give it greater meaning. It replaces conventional accounting and enhances the quality of accounting.

Surrogate accounting (SA) is a useful strategy for displacing conventional accounting practices and utilizing new, alternative recording approaches. The process of recording, reporting, financing, managing revenue and capital expenditures, managing assets, or reporting financial performance and position over time, as well as communicating it to stakeholders, may be made easier by using surrogate accounting. Therefore, it may be a process to help the organization relieve the stress of bookkeeping, accounting, and auditing tasks. The task of maximizing shareholder funds and generating or developing value addition with the brand image may be planned for and carried out by the firm.

Now, several businesses express their interest and agility towards surrogate accounting work through third-party agencies and many of the organizations are planning to surrogate it. While surrogating the accounting work to a third-party agency, they aim for excellent service which can take their business to new horizons. The task in accounting is very monotonous and tedious which when handled by expert and experienced individuals can give better results. So, looking for an ideal accounting firm for surrogating the accounting task is important. They have a basic requirement that their accounting work must be in proper order. No matter, how complex the business is. Many companies are providing their services like Meru Accounting, and Valuenode.

To surrogate accounting services, one doesn't always need to be financially motivated. The lack of expertise is just one of the other factors prompting companies to seek external professionals locally, nationally, or internationally.

Some blockchain accounting platforms are available to provide applications. Distributed Ledger Technology is one of the major transformations that has replaced traditional accounting systems. Nowadays, many platforms are available to do accounting work without any manipulation and possibilities of reducing fraud. Platforms like Bitcoin, Ethereum, IBM Blockchain, hyper ledger, Ethereum, EVM, Obyte, Sap Hana, Quorum, R3 Corda, EOSIO, Tezos.

Literature and Importance of the Research

For universities looking to create successful start-up enterprises based on technology transfer, a combination of academic and surrogate entrepreneurship may be the ideal strategy (Franklin et al., 2001)

Swedish surrogate ventures outperform non-surrogates by a large margin in terms of growth and revenue. Both the main technical subgroup of information and communication technology (ICT) enterprises and the subgroup of academic technology ventures exhibit much superior performance of surrogates (Lundqvist, 2014).

Conceptually contrasting surrogate entrepreneurship with spin-off entrepreneurship, three instances of surrogate entrepreneurship utilizing open-source technology are then investigated to the conceptual framework (Radosevich, 1995)

Traffic safety assessments and the detection of traffic conflicts both heavily rely on surrogate measures of safety (SMoS). All measurements are calibrated using the same danger detection criterion to ensure comparability. Prediction Accuracy, Timeliness, Robustness, and Efficiency are four performance metrics that are computed for all six SMoS and evaluated using real-world driving data (Lu et al., 2021).

It offers a versatile interface for modeling the risk-given treatment and the surrogate, modeling the integration over the missing counterfactual surrogate responses, and modeling the estimate techniques (Sachs & Gabriel, 2016).

It should be highlighted at the outset that the proposed investment measure is just a substitute for other methods that have been offered to quantify the cost and benefit of employees to organizations (Friedman & Lev, 1974).

On the behalf of study, a deep gap is found in the research literature. It is found that the term "surrogate" has been applied in most of the areas whether it is medical science, traffic safety assessment, entrepreneurship, universities, business schools, risk assessment, and human resources performance. Till now, it is not used in core accounting areas for cost-effectiveness and financial performance measurement. It is focused to adapt surrogate accounting and measuring its impact on business performance. Based on the review of the literature, these hypotheses have been framed.

H_{01} There is no significant impact of adapting surrogate accounting on the profitability and productivity of organizations

H_{02} There is no significant impact of adapting surrogate accounting on the cost-effectiveness of organizations

Research Methodology

The research methodology comprises the research design, sample design, sources of data, selection of data, and various designs and techniques used for analyzing the data. Research is exploratory. Regression analysis and Structural Equation Modelling technique has been applied with SPSS 21 and AMOS 26 software to test the hypothesis

Table 1 List of Endogenous and Exogenous Variables

Variable	Symbols	Name of the variables
Exogenous Variables		
organizational Performance	CF	Cost-Effectiveness
	PF	Financial performance
	PD	Productivity
Endogenous Variables:		

Business	TN	Technology
	CS	Consultancy
	CPx	Capex (Capital Expenditure)
	BM	Business Model
Accounting	AB	Accounting and Bookkeeping
	ACT	Audit, Compliance, and Taxation
	FPA	Financial Planning and Analysis
	IB	Investment Banking
	AM	Asset Management
	MC	Management Consulting
	R&D	Research & Development

(Endogenous) IndependentVariables:

Business-Technology, consultancy, Capex, business model

Accounting- Accounting and Bookkeeping, Audit, Compliance, and Taxation, Financial Planning and Analysis, Investment Banking, Asset Management, Management Consulting, and Research & Development

(Exogenous) Dependent Variables: Cost-effectiveness, Profitability, Productivity

Objective of the Study

- To understand the utility of surrogacy in the area of accounting
- To find how the adoption of surrogate accounting help in the cost-effectiveness of organizations
- To find how the adoption of surrogate accounting help in strengthening the financial performance of organizations
- To find the effect of the adoption of surrogate accounting in enhancing the productivity of organizations

Result Analysis

Regression analysis and technique have been applied to test the hypothesis. It is found that that is the significant impact of adapting surrogate accounting on the cost-effectiveness, profitability, and productivity of organizations. Out of the selected eleven variables, the most influencing capacity is found in assets management, consultancy management, Capex model, technology adoption, and business model.

Further fitness of the model has been tested to Structural Equation modeling technique. To check the reliability and validity of the result, a measurement model is prepared.

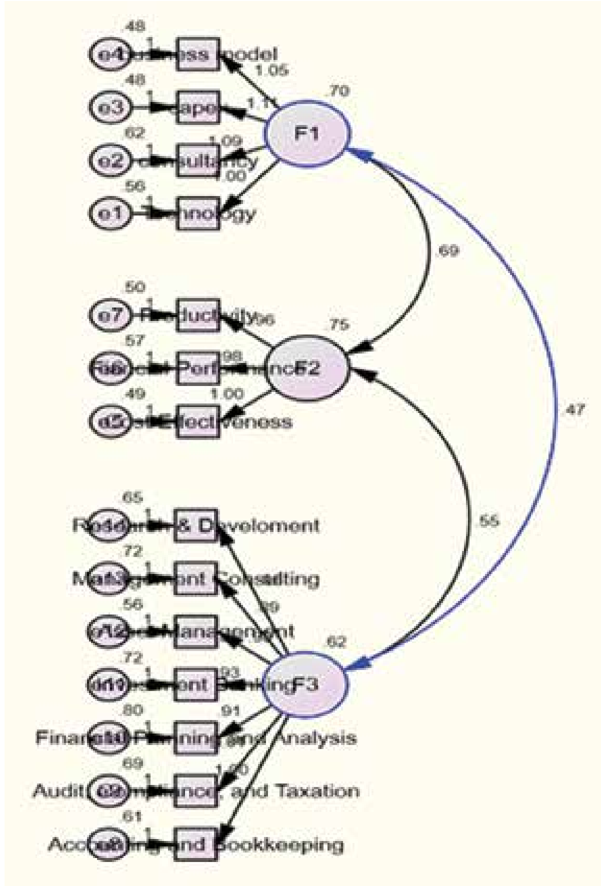

Figure1 SEM Analysis in explaining impact of Surrogate Accounting

Table 2 Model Good-Fit

Model	NPAR	CMIN	GFI	AGFI	RMSEA	CMIN/ DF
Default model	31	193.098	0.882	0.833	0.084	2.609

Measurement Model Evaluation

Assessment of the convergent and discriminant validity considered item loadings, CMIN (Chi- square min). The model exhibited a good fit with the data, thus; x^2=193.098 with 74df, x^2/df = 2.609, p = 0.000; It is considered good if it's ranged less than 3 (CMIN/df). The study considers GFI (0.882) and AGFI (0.833) for construct reliability. GFI value must be > 0.80 and RMSEA(0.054) less than 0.5 (Thio et al., 2023) which depicts that model is fit. This means, it is considered good for the fitness of the model.

Conclusion

The focus of this paper is to examine the impact of adapting surrogate accounting on the cost-effectiveness, profitability, and productivity of organizations. Regression analysis is applied and found that out of the selected eleven

Surrogate Entrepreneurs may be a mechanism to enable universities to realize their potential in the creation of spin-out companies

variables for accounting and business aspects, the most influencing capacity is found to assets management, consultancy management, Capex model, technology adoption, and business model. The model was tested with Structural Equation Modeling (SEM) technique. It is found that surrogate accounting will enable organizations to control the cost and improve value addition.

Many companies provide substitute bookkeeping services to businesses in India. A standard level of accounting work has been provided by numerous accounting firms in India. The surrogate companies in India take care to select the top accounting surrogate companies. India has become one of the preferred locations for outsourcing work because of its low cost of living and strong human resource base. They can be very reasonably priced when work is outsourced to India. Another crucial aspect that is valued by many nations is their dedication to their work. MA

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IMPACT OF FOREIGN DIRECT INVESTMENT ON GROSS DOMESTIC PRODUCT WITH REFERENCE TO INDIA

Abstract

The development of a particular economy is always reflected in its gross domestic product (GDP). Foreign direct investment (FDI) plays an important role in GDP growth. In this article a humble effort has been made to know the impact of foreign direct investment of various sectors on GDP. The data are secondary in nature collected from the Reserve Bank of India (RBI) website. Ordinary least square method (OLS) has been used for this analysis. The researcher concludes that FDI in service sector and other sectors has significant impact on GDP while FDI in manufacturing sector is not having a significant impact on GDP.

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INTRODUCTION

One of the key metrics for measuring a country's economic health is its gross domestic product (GDP).It is employed to measure the size and expansion of the economy. Depending on the economy's inclination to consume, a rise in investment income and employment will result in multiple times increase in GDP. As India has fewer financial resources, it is advisable to attract as much foreign direct investment for better development of our country. The Central Government allows FDI through automatic route and approval route. FDI has fuelled the growth in economic activity for longer time period. Due to FDI, multinational companies are bound to transfer latest technology from their countries to other countries where they have invested their money and as a result there will be growth and expansion in domestic industries. FDI is preferable than foreign institutional investment, sometimes known as hot money, as it depends upon the stock market valuation and global information. It can be said that FDI attracts FII. FDIs are invested in different sectors such as manufacturing, infrastructure,service and other sectors of an economy. FDI flows also strengthen the currency of a particular country as it increases the foreign exchange reserves.

REVIEW OF LITERATURE

Saleem et al.(2020) found that the economic growth is significantly related to trade openness for Bangladesh, India and Srilanka and there was in existence a long run co-integration among FDI, GDP and TO(trade openness).

Syarifuddin & Setiawan, (2022) studied the impact of COVID-19 on FDI on GDP in Indonesia using Vector-autoregressive model. It concludes that there was a variation of impact of COVID-19 on different sectors of the economy. Due to COVID-19 FDI was significantly down in the manufacturing sector.

Srivastava & Talwar (2020) found that there was a high impact of human development index and FDI on GDP.As HDI have more significant impact on GDP than FDI policy makers need to invest more on education, health and life expectancy. The limitation of their study was it cannot be generalised as larger part of the world was having different customs and tradition and secondly the mediating role of other variable has not been tested.

Jushi et al., (2021) found that stable remittance and FDI can make a country prosperous. But their study was limited to western Balkan countries only.

Ciobanu,(2020) found that the three primary factors that affected Romania's economic development over the long term were foreign direct investment, trade openness, and labour force. Additionally, the long-term promotion of foreign direct investment is propelled by the growth of the gross domestic product, exports, imports, and labour force.

FDI is playing pivotal role for economic development of a particular country *Sengupta & Puri,* (2020) in a study between India and its neighbouring countries found that different economic policy of these countries have a role to play in variations in the FDI flow in these countries.

Samborskyi et al., (2020) found that the association of foreign direct investment and economic development duo ends on their joint influence with domestic direct investment.

In a steadily rising GDP, FDI, is the main cause of sharp decline in the unemployment rate *(Vukmirović* et al., 2021).

In a study by *Siddikee & Rahman,* (2021) it was found that Bangladesh does not benefit from FDI's long-term benefits since its influence is essentially negligible, both in the short and long terms. The study also suggests improving foreign direct investment (FDI) in capital intensive project.

*Bilas, (*2020) found that there is only a weak correlation between the growth rates of FDI and GDP.

From the above literature study, we found that FDI has impact on GDP of a particular country. Very few studies have been carried out on the impact of sectoral FDI on GDP especially in Indian context. Our study focused on total FDI flows in three broad categories i.e., manufacturing, service and others and their impact on GDP.

RESEARCH OBJECTIVE AND METHODOLOGY

The objective of this study is to know the impact of FDI in different sectors on India's GDP. All sectors of the economy have been classified into three broad categorise i.e. manufacturing, service and others. All the data are secondary in nature taken from RBI website. The data relating to the financial year 2008-09 to 2021-22 have been used. The statistical tool used for this study is Ordinary Least Square Regression.

RESEARCH HYPOTHESIS

The hypothesis to appraise the impact of FDI on different sectors over GDP has been stated as follows.

H_1- There is a significant impact of FDI of manufacturing sector on India's GDP.

H_2- There is a significant impact of FDI of service sector on India's GDP.

H_3- There is a significant impact of FDI of other sector on India's GDP.

DATA ANALYSIS

TABLE.1
DESCRIPTIVE STATISTICS

Parameters	*GDP*	*Manufacturing*	*Other*	*Service*
Mean	2155.571	13.48843	1.337929	14.80907
Median	2071	13.455	1.235	12.384
Maximum	3176	22.2	2.555	28.3
Minimum	1198	8.766	0.595	4.315
Std. Dev.	585.48	3.443852	0.515401	8.768964
Skewness	0.063845	0.830656	1.198144	0.289878
Correlation	1	.772572	-0.13052	.899559
Kurtosis	2.027986	4.056927	3.986074	1.470948
Jarque-Bera	0.56065	2.261613	3.916816	1.559901
Probability	0.755538	0.322773	0.141083	0.458429
Sum	30178	188.838	18.731	207.327
Sum Sq. Dev.	4456229	154.1815	3.453297	999.6315
Prob (ADF at level data)	0.9968	0.9027	0.3937	0.8526
Prob(ADF at 1st diff data)	0.041	0.0001	0	0.0011
Observations	14	14	14	14

Source: Author's own compilation

In order to find out the relationship among the variables the researcher used correlation analysis.Table 1 above depicts the relationship of GDP with all sectors of FDI investment. It is quite clear that the service sector FDI has high degree of correlation i.e. .89; on other hand manufacturing has .77 but interestingly there is a negative association between FDI on other sectors and GDP. The policy makers may have to formulate policies by taking into consideration these factors. Further all variables are non-stationary at level as **p** value of augmented Dicky Fullertest are more than .05 but all **p** values are below .05 at 1st difference. In order to know the impact of these variable on GDP the researcher used OLS as JarqueBera's **p** value are more than.05 and hence all variables follow normality assumption.

TABLE.2

REGRESSION OUTPUT

Dependent Variable: GDP				
Method: Least Squares				
Independent Variable	***Coefficient***	***Standard Error***	***t-Statistic value***	***P.value***
MANUFACTURING	36.7035	27.70556	1.32477	0.2147
SERVICE	51.11668	10.9075	4.68638	0.0009
OTHER	-278.9593	121.3797	-2.298236	0.0444
C	1276.736	314.9899	4.05326	0.0023
R^2	0.887543	Probability(F-statistic)		.000046
Adjusted R^2	0.853806	S.D. dependent var		585.48
F-statistic	26.30769	Durbin-Watson stat		2.20271

Source: Author's own compilation

Manufacturing= (manufacturing +construction+ real estate+ electricity+ mining)

Service=(Financial services+ communication service+ Business service + Restaurant hotel+ Retail trade+ Transport +Trading +Education)

Others= (others+ Miscellaneous service)

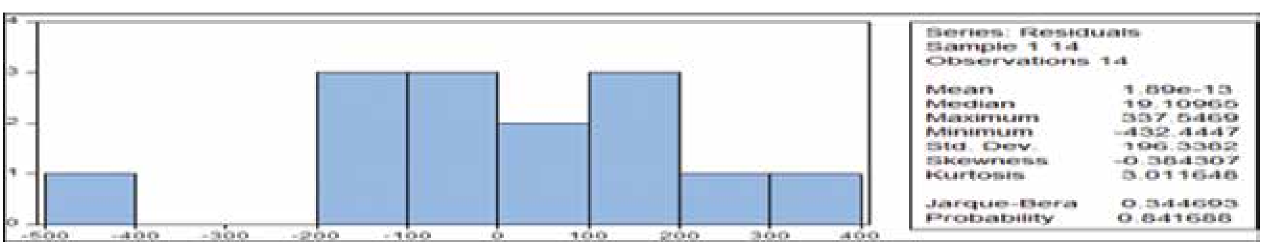
Table 2 shows the regression output.In this regression model, service sector and manufacturing sector FDI have positive impact on GDP but only service sector FDI is significant; on the other hand, other sector FDI has negative impact on GDP and it is significant as **p** value is less than .05. The overall model is good as **p** value of F statistic is less than .05.

From this regression output it can be understood that a one unit change in manufacturing FDI leads to 36.70 units change in GDP. Similarly one unit change in service sector FDI leads to 51.11 units change in GDP and one unit change in other sector FDI leads to negative change of -278 units in GDP. This model explains 88 percentage variation of GDP as the r^2 value shown is 88. Durbin Watson value is 2.20 and therefore the model is free from autocorrelation. Hence, the proposed H_1 is rejected but H_2 and H_3 are accepted.

MODEL DIAGNOSTIC

FIGURE.1

RESIDUAL NORMALITY TEST



Source: Author's own compilation

From figure 1 it is clear that the error term of above regression model follows normal distribution as the p value for

JB test is more than .05 i.e .84 (accepting H_0 i.e. residuals are followed normality). It is one of the basic assumption of OLS. The mean of the error term is 0.less.

TABLE.3
HETEROSCEDASTICITY TEST (RESIDUAL)

Heteroscedasticity Test: Breusch-Pagan-Godfrey				
F-statistic	0.802377	Probability value		0.5205

Source: Author's own compilation

When distribution of error term does not have constant variance it is called Heteroscedasticity. If this is happening then it violates the fundamental principle of OLS model. The null hypothesis follows homoscedasticity. In Table 3 as the **p** value is more than .05 we can say that the model is free from heteroscedasticity.

TABLE.4
MULTI-COLLINEARITY:

Variable	*VIF*	*Variable (correlation)*	*RESID*
MANUFACTURING	2.361637	RESID	1
SERVICE	2.373216	OTHER	0
OTHERS	1.01525	MANUFACTURING	0
C	NA	SERVICE	0

Source: Author's own compilation

One of the assumptions of OLS model is that none of the independent variables has linear relationship with any other independent variable i.e. multicollinearity which is checked by variance inflation factor (VIF less than 5 is good). As VIF for all variables is less than 5 the model is free from multicolinearitywhich is reflected in Table 4.

CONCLUSION

The size of the economy is mostly determined by the value of its gross domestic product. The GDP growth rate is used to gauge the economic expansion, both over the time and in comparison to other economies. Investment is the primary production factor in any nation's economic progress. In a country like India where financial resources are limited there is an urgent need to attract as much foreign capital as possible in the form of FDI. It helps in improving infrastructure facilities, employment opportunities and availability of goods and services for domestic consumption by lowering the dependency of the country on imports and fuelling the exports which also reduces the burden on the balance of payments of the country. In this study the whole FDI data consists of various sectors during the time period 2008-09 to 2021-22 collected and classified into three broad categories i.e. FDI in manufacturing, service and others. The OLS regression model depicts that FDI in service

The size of the economy is mostly determined by the value of its gross domestic product

sector and in other areas have significant impact on GDP while the impact of FDI in manufacturing sector on GDP is not significant. The policy makers must concentrate on more reforms in manufacturing sector in order to overcome the existing loopholes. The limitation of this study is that we excluded other factors which may have impact on GDP of a particular country. FDI flows depend upon so many factors like inflation, political stability, policy of Government etc. MA

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A NARRATIVE ANALYSIS ON DIGITALIZATION: A NEW ERA IN CORPORATE GOVERNANCE

Abstract

Today we are in the era of Corporate Governance 4.0 which is forward-looking and technologically enabling our businesses so that they remain relevant and competitive. Since the digital world is changing at such a rapid pace, companies must respond promptly in managing their digital transformation. This digital transformation works as a tool to ensure good corporate governance. There is scant research on the impact of digitalization on companies in general and on Boards mainly. This study is qualitative since only selected areas of regulatory frameworks that particularly address digitalization were chosen and content-wise studied. The impact of the digital revolution on corporate governance in India is examined in this article . The laws, guidelines and the listing regulations are employed to examine their impact. The findings showed that the Government tries to digitalize the regulatory frameworks and requirements related to corporate governance gradually. With the help of digital technology, the Board of directors take speedier decisions, works more efficiently and effectively and overall, it offers new opportunities. At the same time, the era of digitalization brings along new challenges that will be faced such as cyber security, technically efficient people on the Board, establishing high standard analytics, and upgrading the technical knowledge from time to time. Nevertheless, it can be a tipping point in corporate governance. A wide range of possibilities for future research may open up such as, how does digitization affect the shareholder's monitoring and how does digitization influence the relationship between the company and stakeholders such as investors, suppliers, regulators, etc.

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INTRODUCTION

In today's world where technology is changing very rapidly, the word "digitalization" is a buzzword. Digitalization has been causing considerable changes in the organization, society, and individual behavior and it continues to make changes at a faster pace. The internet of things (IoT), a network of gadgets and devices, will open up vast prospects for automation in the industry and the corporate world. Robotic process automation can be integrated with machine learning, cloud technologies, and artificial intelligence to automate operations, streamline processes, boost worker productivity and then eventually promote compliance transparency.

Businesses going digital is not a new phenomenon; we have been witnessing this shift for nearly two decades. Prior to f COVID-19, digitization had gained a foothold,but after the pandemic, the adoption of digital transformation is at a greater pace i.e. ahead by three to four years Those who are not aware of the technology need to get updated and be aware of the technology. Now a day's everything including banking services, Government services, medical consultations, etc. are different from the way they were operated earlier. Now we get service with just one click. It can be said that digitalization has redefined the way the business are conducted. It hasopened up the roads for new business models or industries.

In a country like India where most of the people reside in rural areas they are less aware of the concept of digitalization but they get got the awareness during the pandemic . In India, steps are also taken to encourage digitalization such as the digital India campaign that was launched by the Government of India on 1/July/2015 for improving thedigital literacy and increasing internet connectivity. Further, the Indian Broadcasting and Digital Foundation was announced in May 2021; it was earlier called as International Broadcasting Foundation as part of its development to bring all digital platforms and digital players (OTT) under one roof.

"Corporate governance" is a crucial framework that ensures the corporate toachieve its vision and goals wisely by being profitable and being ethical in its dealings. The term "digitalization" means how to improve itsbusiness processes through electronic processes. Companies must be quick and agile to respond to market demands at a time when technological advancements permit rapid development. If both the terms are merged i.e., digitalization and corporate governance then the term "digital corporate governance" arises which works as a rewarding effort in the long run. It means digitizing the corporate governance framework of the company.

If the company follows good corporate governance standards, then it does not guarantee a sure success but non-compliance with the corporate governance standards may cause a loss in the long term. Examples offew such recent failures are Jet Airways (India) Limited, Yes bank Limited, Interglobe Aviation Limited, Dewan Housing Finance Corporation Limited etc.

In this article , an attempt is made to examine the impact of digitalization on corporate governance regulatory frameworks in India. The nature of the research is qualitative.

LITERATURE REVIEW

There is a scarcity of literature on the subject of digitization and corporate governance as it is still an emerging one. The few works of literature are as follows

(*Bankewitz, Aberg, & Teuchert, 2016*), in their exploration, try to present a paradigm that shows how digitization may affect Boards and define two ways for this. First, they propose that in the future, Boards need virtual networks of individuals where there is less need to oversee management and a greater emphasis on a shared leadership approach. Second, they propose that the Board may work as per the dynamic Board agenda while taking into consideration the organizaional risk and opportunities.

Grove,Clouse and Schaffner, 2018 focused on the digitalization dashboard. It can be explained like that in this age of digitization, notably with artificial intelligence or three-dimensional printing. Such developing digital indicators might then be incorporated into a digitalization dashboard and used by the Board of directors to challenge corporate executives about their objectives, risk, competitive advantage, and growth on such digital metrics. The use of such digital measures for experienced and competent people should be viewed as a reasonable learning extension. As a result, corporate governance would be strengthened by such a strategy.

In their article, *Srinivas, Lamm and Ramsay*, 2019 describe that there is a rapid use of Board portals in the United Kingdom for Board communication. There has been an easy sharing of the information between the management and the Board members. In this portal, there is no use for centralized or coordinated mechanisms. The impact of digitization is still not known, especially on board as it is still in progress.

The main focus of the paper by *Ivaninskiy,* 2019 is the blockchain technology application for corporate governance and he found that as per the majority of the studies, blockchain has the ability to reduce conflicts in corporate voting which results in more shareholders being able to get involvde in the governance process which results in resolving the conflicts. The blockchain application as a ledger in order to record those transactions involving a company's securities results in transparency in share ownership.

Khoshimov and Makhmudalief, 2020 found that the competence-based approach is used for the optimization of the Board structure and when a person is appointed to the Board his digital competency can also be considered. In the digital financing of the companies and corporate governance, blockchain technology should be employed. The rating system of corporate governance should be modified by providing the ranks based on the benchmark set.

*Mosneanu,*2020 inhis study emphasizes how the members of the Board of directors get appointed through a process of digitized recruitment and selection in public enterprises of Romania. Also, the researcher suggested that various models can be tailored as per the needs of the Public Administration and were secured such named as decision-making software and aligned towards corporate governance, to make the recruitment and selection process transparent and decentralized.

Laptev and Daria, 2021 figure out that the application of digital technology in corporate governance increases the corporate's transparency and efficiency and at the same also able to protect the rights and interests of all stakeholders. One of the most significant advantages of employing digital technology in corporate governance is timely compliance, fewer efforts, and a reduction in the cost.

Pillai, 2022 found that there is a need to prepare individuals who can effectively use digital means. Cybersecurity is a major concern in India as by the use of social media the foreign forces try to destabilize India as well as cyber-attacks on Indian infrastructure. Cyber security has also become a primary concern with the evolution of digital transformation. The Data Protection Bill , 2019 was presented in the Parliament but is still pending for personal data information security.

RESEARCH METHODOLOGY

The study is qualitative since only selected areas of regulatory frameworks that particularly address digitalization were chosen and content-wise studied. The impact of the digital revolution on corporate governance in India is examined here. The laws, guidelines issued and the listing regulations are considered to examine their impact. The findings showed that the Government tries to digitalize the regulatory frameworks and requirements related to the listing. It showed that corporate governance elements have been discovered to be well aligned and balanced.

DIGITALIZATION AND CORPORATE GOVERNANCE IN INDIA

Corporate governance is a system of governance that consists of rules, laws, or processes by way of which the company is managed and controlled in such a manner that it is beneficial for the various stakeholders such as investors, employees, government, etc. The company shows whether it complies with the rules and regulations or not by way of timely and accurate reporting of the financial and non-financial information.

India's corporate governance evolution started in the year 2000 when SEBI introduced the groundbreaking clause 49 in the listing agreement, which introduced the first-ever corporate governance requirements in India. This was based on the Kumar Mangalam Birla Committee's suggestions. After that, various committees on the matter have been formed till now , each of which has suggested appropriate measures.. One of the recent was the Kotak Committee which has made numerous suggestions on the various attributes of corporate governance.

In today's era of globalization, there is substantial pressure on the corporates for timely reporting, timely compliance and governance. Digitalization can work as a tool to meet these challenges. Digitalization can be considered as the turning point in corporate governance which we can call the "new era of corporate governance". The first step in the process of digitalization of corporate governance can be that there is a need for a virtual network of capable people on the Board (*Bankewitz, Aberg, & Teuchert*, 2016). Digitization and corporate governance are frequently perceived as a goal but it is, in fact, a journey and not a destination. This journey had an impact on the stakeholders of the company and the way the Board governs the company.

Transparency, integrity, and ethics are all important for a good corporate governance framework. The Ministry of Corporate Affairs (MCA) and the Securities Exchange Board of India, as well as other regulatory bodies overseeing various aspects of governance, make up India's corporate governance structure.

MEASURES TAKEN BY THE GOVERNMENT

The following are the outline where the steps are taken by the government, regulatory bodies to incorporate the digital transformation in corporate governance:

1. Shareholder's rights

Digital corporate governance is the need of the moment; shareholders now need to involve more in the digitalization of processes. Furthermore, enabling shareholders' participation in decisions and policy will play an effective role in the formation of good corporate governance.

1.1 Notice

As per the Companies (Management and Administration) Rules,2014, the notice of the company's general meeting shall be displayed on the company's website or any other website, as the Central Government may notify

1.2 Meetings

With effect from the financial year 2018-19, mandatory webcasting for AGMs has been introduced for the top 100 companies by market capitalization as per the SEBI, Listing Obligations Disclosure Requirements (LODR)Regulations 2015 as amended in May 2018. This is one step forward toward the journey of digitalization.

1.3 E-Voting

A Company having more than 1000 shareholders, can allow its members to cast their vote by way of electronic means i.e., e-voting on the resolutions as per the SEBI Listing and Obligations Disclosure Requirement (LODR) Regulations, 2015. It enables those shareholders who are residing in remote areas to participate in the company's decision-making process. Shareholders can exercise their voting rights even if they are unable to attend the meetings in person.

1.4 Postal Ballot

As per the Companies

(Amendment) Act,2017, a Company which provides e-voting facility to its member may allow its member to vote electronically in respect of those items of business that may be transacted at a general meeting by way of postal ballot.

1.5 Minutes

For board meetings or each of its committee's meetings, a separate minutes book must be maintained. Minutes now may be kept in either physical or electronic form by the company. In case the minutes book is kept in electronic form then it should be in accordance with the requirement of The Companies Act, 2013 and as per the Board's discretion. Minutes in electronic form must include a Timestamp.

2. Maintenance and inspection

As per the Companies (Management and Administration) Rule,2014 the documents can be maintained in electronic form and the inspection of the same can be done in electronic form provided every listed company or a company has more than1000 shareholders, other security holders, or debenture holders .

3. Certification

The certification of the electronic forms is now done digitally as per the Companies (Registration Office and Fees) Rules, 2014. As per the norms now a Company Secretary, Chartered Accountant, or Cost Accountant (who is in full-time practice) can digitally sign the E-form to certify it.

4. Transparency and Disclosures

Transparency is a pivotal feature of corporate governance that can attract capital and preserve investor confidence. The disclosure now can be made by the companies through electronic media or print media. There are some disclosures like the following that the company is required to make on its websites:

- Board's report,
- Detailed information about its business,
- Information related to independent directors such as its terms and condition,
- The policy of the company concerning corporate social responsibility,
- Special resolution if any passed by the company on the unutilized amount raised from the public through the prospectus,
- Policy relating to related party transactions,
- Policy for determining "material subsidiaries",
- Policy relating to "whistle Blower policy",
- Information about the various Board committees,
- Information relating to the code of conduct of the Board's senior management personnel,
- Email address for grievance redressal,
- Information about the competency or expertise of the board members

5. Language for reporting

XBRL stands for extensible business reporting language which is a data-rich version of extensible markup language i.e., XML. It is an internationally accepted language for exchanging data over the internet. It was created to communicate information to the users of financial information (i.e., investors, regulators and analysts) and among the businesses. For business reporting, XBRL provides a standard, electronic format. It makes no difference as to what is being reported. It merely alters how it is reported. Some companies are required to file their documents and financial statements in the XBRL format . XBRL is used in a wide range of situations. XBRL allows financial data producers and users to shift resources away from time-consuming manual operations such as data comparison, assembling,and re-entry.

6. Board of Directors

The result of the recent pandemic, as well as digitization, can be seen in the rise in virtual meetings held as per the Companies (Meetings of Board and its Powers), Rules,2014. This shows that the Board of directors must regularly enhance their skills in the usage of technology. Good governance will no longer be restricted to meetings or attendance only.

For quorum, the directors' participation as per the SEBI, Listing Obligations Disclosure Requirements (LODR)Regulations 2015 as amended in May 2018 by way of video conferencing or by other means of audiovisual aids would also be considered .but only for the top 2000 companies which are listed, applicable from 1stAril,2022. To avoid a video or audio-visual connection failure, necessary arrangements should be made in advance. The chairperson is responsible for ensuring the integrity of the virtual meeting.

7. SCORES: SEBI Complaints Redress System

SEBI released a mobile application for the convenience of the investors to lodge their concerns in the SEBI complaints redress system on March 5, 2020, as a part of its effort towards investors, to make it easier for them to file complaints with SEBI online rather than submitting complaints on offline mode. Investors not only make complaints but also track the progress of their complaints. FAQs on SCORES can also be used to gain a better knowledge of the complaint processing process.

From the above, it can be concluded that with digitization, the participation of the stakeholders can be improved, and there is more accountability, integrity, and transparency in the corporate governance framework. Digitizing the corporate governance framework is not an easy task.The Government is also moving forward in the same direction but it is doing so slowly. But to achieve the goal of digitalization, mere conversion of the manual process to an online platform is not sufficient.

The process of digitizing the corporate governance framework demands necessary changes to be made at all levels of the company but it will be a worthwhile endeavour in the long run. It will thus establish the groundwork

8. Major Challenge: Data Security and Digitalization

One of the primary pillars of any corporate governance approach is data security. Companies and stakeholders thereof are now sharing essential and sensitive data with cloud services. This has introduced new threats but at the same time, it creates an awareness as to how significant it is to maintain data privacy, correctness and integrity. A data security breach can lead to a loss of trust in a company's capacity to maintain its data safe and secure. A recent article in the Economic Times titled "Digitalization at the heart with security in mind" reported that around 6.07 lakh incidents related to cyber security had been reported during the year 2021.

The Government is also aware of this challenge and hence moving forward towards it, the responsibility of the Risk Management Committee has been expanded to include cyber security. But it applies only to the top 500 listed companies which are determined based on the market capitalization as per the SEBI Listing Obligations Disclosure Requirements (LODR) (Second Amendment) Regulations,2021. Without efficient, reliable, and secure channels of communication, the Board of directors cannot make an effective and right decision. To ensure that the data of the company remain secured, the Board must commit an appropriate amount of time and money.

CONCLUSION

The corporate governance framework can be improved more by making all documentation digitally - documents can be created on the digital platforms themselves, modified, shared, and signed - as it results in speeding up the process and improves the data security. With the support of appropriate technology, digitalization empowers the Board of directors to operate more efficiently, with more efficient procedures and relevant data, enabling speedier decision making and offering new opportunities. With digitalization of some aspects of corporate governance, listing requirements, and company law procedures, the benefits, hindrances, and challenges related to it should be reviewed by the regulatory bodies and the companies.. Corporates must concentrate on developing digital capabilities, establishing high-standard analytics, and encouraging a culture of risk management that can resist disruptive change in today's world. In the future, there is scope that because of digitalization, shareholders and stakeholders get better insights and access to vital information. Digitalization has rendered the traditional business models obsolete and spawned new ones.There is a need for companies to create their own strategy rather than looking for a roadmap to lead them through digital transformation.

A wide range of possibilities for future research may open up such as the following:

1. How does digitization affect the shareholder's monitoring?
2. How does digitization influence the relationship between the company and stakeholders such as investors, suppliers, etc.?
3. What impact does digitalization have on traditional business risk? MA

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14. *KPMG website: https://home.kpmg/xx/en/home.html*
15. *Economic times website: https://economictimes.indiatimes.com/*
16. *Forbe website: https://www.forbesindia.com/*
17. *Business Insider website: https://www.businessinsider.in/*
18. *Taxguru website: https://taxguru.in/*

DCF METHODS AND IMPLICIT RE-INVESTMENT ASSUMPTIONS: CHANGING REINVESTMENT RATE, CONSEQUENCES AND MODIFIED METHODS

Abstract

The estimates of NPV and IRR, computed in a conventional way, can emerge misleading, in the event, the reinvestment rate turns lower than the implicit rate of the model. If future reinvestment rates turn promising, the actual figure of NPV and IRR can emerge better. Contrary to this, if the future growth rates look very dull, NPV or IRR estimates will remain unrealized. Hence, to act rationally, trying the modified methods are recommended for the firms undertaking a project appraisal.

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INTRODUCTION

Discounted cash flow (DCF) methods such as internal rate of return (IRR) and net present value (NPV) are based on the implicit assumption of immediate re-investment of cash inflows. If such re-investment of cash inflows at the prescribed rate is not immediately done or done with an inordinate delay, the index of benefits so estimated cannot be realized from the project in question.

It needs to be noted that the mechanism of discounting is based on the implicit assumption that money in hand can be re-invested immediately to reap earnings from it. If a ten per cent discounting rate is applied, it means the firm is in a position to reinvest its earnings at a ten per cent rate. In the IRR method, it is assumed that the cash inflows can be reinvested (back into the same project) at a rate equivalent to IRR. Contrary to this, in the NPV method it is presumed that cash inflows will be reinvested at the firm's cost of capital.

Conventionally, to approve a project, the IRR must be higher than the 'cost of capital. This convention creates an understanding that IRR is a higher rate compared to the cost of capital. As a high re-investment rate, as presumed in the IRR method, is somehow difficult to earn, the NPV method appears convenient to the management because this method presumes reinvestment to occur at the cost of capital. Keeping this point of convenience in mind, most of the experts recommend that the NPV method is better than IRR. The purpose of this article is not to settle the debate but to discuss the consequences when re-investment conditions are violated. Secondly it proposes to discuss the modified methods that can be used when re-investment at the specified rate cannot be ensured.

WHAT HAPPENS WHEN ALL CASH INFLOWS ARE KEPT IDLE

Instead of re-investing the cash inflows from a project, if those inflows (earnings) are kept in hand on the pretext of liquidity, IRR (or NPV) so calculated for the project will remain in the appraisal papers only; the benefits assessed can never be realised. This can be shown with an example.

Example 1: Say, Project A requires an initial investment of \$400. The project will produce cash inflows of \$103, \$181, \$200, and \$151 in the successive four years till the end of the project life. Calculating the IRR of this project on a computer using any software gives an estimate of 20 per cent IRR. It does not mean that the firm in question is assured to reap a 20 per cent return with certainty. If the firm can re-invest the earnings (inflows) at the rate of 20 per cent in another investment avenue, a 20 per cent return can be earned. Otherwise, actual earnings will be different from the appraised estimate. This can be understood from the calculation shown in Table 1:

TABLE 1
EFFECTS OF REINVESTMENT RATES ON PROJECT PROFITABILITY

Reinvestment is done @ 20 per cent p.a.					Reinvestment not done	
Year	Cash Inflows ($)	Reinvestment done for time	Compound factors@20%	Appreciated fund at the end of 4th year ($)	Year	Cash inflows ($)
I	II	III	IV	V	VI	VII
1	103	3 years	1.728	177.98	1	103
2	181	2 years	1.44	260.64	2	181
3	200	1 year	1.2	240	3	200
4	151	0 year	1	151	4	151
			Total	**829.62**	**Total**	**635**
				Return on investment, R = 20%	Return on Investment, **r** = 12%	

The first five columns of the table show the results when reinvestment is done at the assumed 20 per cent rate and columns VI and VII show the results in the case the reinvestment conditions are violated. Column II of the table shows the cash inflows from the project in successive years; column III shows the period for which reinvestment of inflows can be done; column IV shows the compound factors at 20 per cent ; Column V shows the appreciated amount to be received in the fourth year from reinvestment of each year's cash inflows. The column total of column V gives the aggregate amount received from reinvestments at the end of the fourth year; the amount is $829. It means $400 invested in the beginning gets appreciated to an amount of $829.62 at the end of 4th year. To calculate the return earned on the initial investment of $400, we must solve equation (1) as shown hereunder :

$$400(1+R)^4 = 829.62 \qquad \textbf{(1)}$$

Where R represents the rate of earning. Solving the equation, the value of R is found to be 20 per cent . It confirms that if reinvestment is done at 20 per cent , the appraised 20 per cent IRR can be reached. Contrary to this, column VII shows the cumulative annual cash inflows when no reinvestment is done. The total of this column gives an aggregate fund in the hand of $635 in the fourth year. To know what rate of return it earns on $400 for four years, we must solve the following equation.

$$400(1+r)^4 = 635 \qquad \textbf{(2)}$$

Solving the equation, the value of **r** is found to be 12 per cent . It reflects that keeping funds totally idle is not a prudent practice. If the firm succeeds to make reinvestment at a 15 per cent rate, the rate realized will stand at 18 per cent only. This gives a transparent message that 20 per cent IRR can be reaped only when the firm is able to re-invest the inflows at 20 per cent rate. It is to be noted that the firms have the practice of choosing the best investment first, then the better investment and finally a fair investment ; hence, the probability that the firm in question will have an uninterrupted opportunity of reinvesting funds at 20 per cent , is mostly unrealistic.

CHANGING REINVESTMENT RATES AND MODIFIED METHODS OF APPRAISAL

In the NPV method, this reinvestment rate is taken equal to the cost of capital *k,* whereas, in the IRR, the rate is assumed to be equal to IRR itself (*Ehrhardt and Brigham,* 2011). Obviously, these assumptions are implicit in the DCF method of evaluation. The re-investment rates can undergo variations from time to time. This may be due to the diminishing rate of marginal return on capital employed or a downturn in the economy. To incorporate the variations in re-investment rates in the process of appraisal, two modified methods have been developed as noted below:

a. Modified net present value method (NTV)
b. Modified internal rate of return method (MIRR)

These two methods have been discussed in the following paragraphs.

Modified NPV Method

The net future value (NFV) of an investment is the difference between the aggregate compound value of all net cash inflows and the compound value of the investment cost of a project. Cash inflows are compounded at the available re-investment rate, which may undergo changes several times over the life of the project. On the other hand, the initial investment cost is compounded at the required rate of return. NFV is the difference between these two. Symbolically, it is defined as

$$NFV = \sum_{t=1}^{T} C_t(1+r^*)^{T-t} - C_0(1+k^*)^T \qquad \ldots\ (3)$$

Where r_t* is the reinvestment rate of tth year, T is the life of the project. The required rate of return (i.e., cost of capital) is *k**. When themanagement feels that the re-investment rate is likely to be higher than the required rate of return *k**, the NFV will be highly favourable. If we compare the NFV method with the NPV method, one difference is distinctly reflected. It is that – NPV makes appraisal in terms of present value, while the NFV method performs appraisal in terms of the future value. To be more judicious, the NFV can be discounted back to a present value figure, then it can be defined as the modified net present value (MNPV) of the project. Modified NPV should not be mixed with adjusted NPV as advocated by Myers (1974). The formula of modified NPV looks as shown in equation (4) below:

$$\text{Modified NPV} = \frac{\sum_{t=1}^{T} C_t (1+r^*)^{T-t}}{(1+k^*)^T} - C_0 \text{-------} \quad (4)$$

In the following paragraph, an example of modified NPV calculation is presented for quick understanding.

Example 2: Initial cost of commissioning the Project PQR is $500,000. The cash inflows of the project are given below along with the possible reinvestment rate for the respective years. The finance department reports that the IRR of the project is 12 per cent and NPV is $30,653.

Year	*1*	*2*	*3*	*4*	*5*
Cash Inflows ($)	50,000	1,23,200	1,60,000	2,40,000	1,60,000
Reinvestment Rate	12%	13%	14%	12%	11%

The cost of capital of the firm is 10 per cent Keeping in mind the different reinvestment rates, the calculation of modified NPV has been shown in the following Table TABLE 2

COMPUTATION OF TERM-END FUTURE VALUE OF PROJECT PQR

Year	*Inflows*	*Re-investment rate*	*Investment Duration*	*Compound Value Factor*	*Compound Value*
1	50,000	12%	4	1.573	78650
2	123,200	13%	3	1.443	177778
3	160,000	14%	2	1.299	207840
4	240,000	12%	1	1.12	268800
5	161,000	11%	0	1	160,000
				Aggregate Future Value	893068

Table 2 shows the calculation of aggregate future value. From the figure of aggregate future value, an accountant can calculate modified NPV. This requires translating the aggregate future value (projected to accumulate at the end of the life of the project) into its present value. At a 10 per cent discounting rate, the PV factor for discounting the fifth year's cash inflow is 0.621. Therefore, the present value of aggregate future value = 893068 × 0.621 = 554,595

Modified net present value= P. V. of aggregate future value – Project cost

= 554595– 500,000 = 54595

The estimate of aggregate future value can also be used to compute the average earning rate earned on the project. In the case of Project PQR, the average earning rate as a proxy of IRR can be calculated from equation (5) noted below:

$$500000(1+R)^5 = 893068 \quad \textbf{(5)}$$

After solving the equation, the value of R is found equal to 12.30 per cent . This example is successfully unfolding two different learning points. First, the NPV and IRR calculated in a conventional way can undergo variations when reinvestment rates undergo variations at any time during the life of the project. Secondly, if the future growth rate is promising, the actual figure of NPV and IRR will emerge better than what is computed in a conventional way. In the case of this example, the conventional DCF provided an IRR of 12 per cent and an NPV of $30,653. As the reinvestment rate is better, the realized IRR reaches 12.3 per cent and the modified NPV appears $54595. Contrary to this, if the future growth rates look very dull, NPV or IRR estimates are likely to be misleading estimates.

NPV model presupposes that cash inflows will be reinvested at cost of capital. In reality, a firm will always try to make re-investment in avenues that give a return higher than the cost of capital. In this context, the modified NPV model provides a rational evaluation method. The modified NPV method suggests that the rate at which the cash inflows can be reinvested by the firm should be counted in the evaluation of projects.

If re-investment at a rate higher than IRR is possible, then realized return can turn higher than IRR. Contrary to this, if the reinvestment rate is experienced lower, the realized return will be lower than the IRR.

Modified Internal Rate of Return

The IRR method presupposes that cash inflows of successive years should be reinvested into the same at the project rate of return, IRR. Contrary to this, the MIRR method obviates this assumption. Instead, subsequent cash inflows are assumed to be returned to the common fund that is carrying the common cost, *k*. As better investment options get exhausted, the subsequent re-investment rate comes down. MIRR argues that the cash inflows will be re-invested at the required rate of return, *k*, not at the rate of IRR. Thus, in the calculation of MIRR cash inflows are compounded at the required rate of return, *k,* which is equal to WACC. The steps in calculating MIRR:

1. Estimate the term-end future value (TFV) of yearly cash inflows,

$$\text{TFV} = \sum_{t=1}^{n} C_t (1+k)^{n-t}$$

2. MIRR is a rate at which compounded value of the initial cost for a period, equal to the life of the project, will

be equal to the TFV (term-end future value) computed at step (i). Say, the unknown MIRR is **r***and the life of the project is *n*. The compounded value of initial cost C_0 at a specific MIRR is equal to $C_0(1+r^*)^n$

3. Equate the results obtained at step (i) and step (ii) and solve for the value of **r***

$$C_0(1+r^*)^n = TFV$$

$$C_0(1+r^*)^n = \sum_{t=1}^{n} C_t(1+k)^{n-t} \quad .... \quad (6)$$

Every element of equation (6) is known except unknown **r***. Compared to IRR, MIRR is better because IRR overstates the benefits to make a project selected (*Brigham* and *Houston*, 2018) Let us have an illustration to observe the procedure of computing MIRR.

Example 3: The following table shows the cash inflows associated with tourist taxi service - a project conceived by Green View Hotels of Darjeeling. The project involves buying small four-wheelers at the cost of $400,000 to provide a free pick-and-drop facility to visitors. This image-building plan is about to produce incremental revenue in the next five years as shown below:

INCREMENTAL CASH INFLOWS FROM TOURIST TAXI SERVICE

Year	*1*	*2*	*3*	*4*	*5*
Cash inflows ($)	40,000	1,20,000	1,61,000	2,38,000	1,65,130

IRR of the taxi service project is 19.16 per cent . Assuming cost of capital, k = 10 per cent , the computation of MIRR has been shown below:

Assuming the reinvestment rate, k = 10per cent , the term-end future (TFV) value of the project will be as in Table 3.

TABLE 3

COMPUTATION OF AGGREGATE FUTURE VALUE FOR MIRR

Year	*Inflows ($)*	*Reinvestment period (in years)*	*Compound Value Factors @10%*	*Future Value of inflows ($)*
1	40,000	4	1.4641	58564
2	120000	3	1.331	159720
3	161000	2	1.21	194810
4	238000	1	1.1	261800
5	165130	0	1	165130
Total Future Value				840024

Say, the modified internal rate of return (MIRR) is equal to **r***

According to the rule,

$$400000(1+r^*)^5 = 840024$$

$$(1+r^*)^5 = \frac{840024}{400000} \text{ or, } (1+r^*)^5 = 2.10, \text{ Hence, } (1+r^*) = 1.16$$

That is, r* = 16 per cent ; Therefore, the MIRR of the project is 16 per cent .

This method assumes the deployment of funds at cost of capital. Hence, the MIRR gives a conservative estimate of the rate of return. It can be verified considering this taxi service example. The IRR of the taxi service project is 19 per cent , whereas the MIRR is 16 per cent . It shows that MIRR gives a dull painting to the estimate of IRR. No manager likes reporting a lower earning rate to the top management or investors. Because of this limitation, this method is not popular in the industrial world. Finally, the re-investment at the rate of cost of capital over the entire life of a project is somehow a rigid policy because some companies at the growth stage notice their reinvestments occur at a consecutive higher rates. Compared to this, a declining firm can have successive reinvestments at a lower rate. The application of the rigid reinvestment rate equal to the cost of capital, as defined in the MIRR method, provides an understatement of the benefits of a growth firm, whereas it overstates the gains of a declining firm. *Batra* and *Verma* (2017) report that only a limited number of firms (2 to 3 per cent) in India use MIRR. Particularly, young executives with management education are enthusiastic to apply this modern method.

Computer software provides the option for computing MIRR on a computer. However, for computing Modified NPV, no software is available. It is expected that soon the Modified NPV method will be programmed in computer language so that managers can evaluate a project in terms of changing reality, instead of depending on the rigid assumption of fixed re-investment rates over the entire life of the project, which is simply unrealistic.

CONCLUSION

The reinvestment assumptions implicit in DCF methods like NPV and IRR can hardly remain true because the reinvestment rate undergoes changes several times during the life of a project. It means NPV and IRR obtained from the DCF models can hardly remain as the assured index of benefits. Firms in the industrial world should act rationally by using modified appraisal methods that permit changing reinvestment rates for the reliable estimate of NPV and IRR, rather than depending on the conventional DCF model, which is good enough for the theoretical values only. MA

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The Institute of Cost Accountants of India
12, Sudder Street, Kolkata – 700 016.

ELECTIONS TO THE COUNCIL AND REGIONAL COUNCILS, 2023

Kolkata, the 11th May, 2023

N O T I F I C A T I O N

Presence of candidates and their authorised representatives at the polling booths

No. EL–2023/23 : In pursuance of sub-rule (2) of Rule 26 of the Cost and Works Accountants (Election to the Council) Rules, 2006 as amended, read with Regulation 118 of the Cost and Works Accountants Regulations, 1959 as amended, candidates wishing to appoint authorised representatives for Polling Booths are requested to send to the Returning Officer by name, so as to reach him not later than 26th May, 2023 upto 6.00 P.M., an intimation of their intention to appoint such authorised representatives, the number of which shall not be more than two for each Polling Booth, clearly indicating the full name, Membership Number and address of each of the authorised representatives and the number of Polling Booth at which each of them will be present. Not more than one authorised representative shall be present at a time at each Polling Booth. An authorised representative must be a member of the Institute.

The authorised representatives who are voters for any constituency and who by reason of their being on duty at a Polling Booth, are unable to be present and to vote at the Polling Booth where they are entitled to vote, may send to the Returning Officer by name so as to reach him not later than 26th May, 2023 upto 6.00 P.M., application for permission to vote at the Polling Booth where they will be on duty.

The format for appointment of authorised representatives to be given to the respective Polling Officer is also attached

(Kaushik Banerjee)
Returning Officer

Copy to : All candidates

The Institute of Cost Accountants of India
12, Sudder Street, Kolkata – 700 016.

FORMAT FOR APPOINTMENT OF AUTHORISED REPRESENTATIVES

ICAI ELECTIONS – 2023

The Returning Officer,
The Institute of Cost Accountants of India

____

____

Dear Sir,

Re: Appointment of Authorised Representatives:

I am a candidate for election to the Council / Regional Council from ____________________________ India Regional Constituency of the Institute of Cost Accountants India.

In terms of the provisions of sub-rule (2) of Rule 26 of the Cost and Works Accountants (Election to the Council) Rules, 2006 as amended read with Regulation 118 of the Cost and Works Accountants Regulations, 1959 as amended, I hereby appoint the following two members of the Institute as my authorised representatives to remain present at your polling booth. It is, however, understood that only one of them shall be entitled to be present at any given time on my behalf at the aforesaid polling booths.

Sl. No.	Full Name of the Authorised Representatives	Membership No.	Full Professional Address	Mobile No.	Email id	Region	Voter's Sl. No	Polling Booth No.
1								
2								

Yours faithfully

(Signature of the Candidate)

Place : ______________________

Date : ______________________

Full Name ____

Membership No. ____

Voter's Sl. No. ____

Region ____

Signature (s) of the Authorised Representative (s) :

1. ____________________________________

2. ____________________________________

Signature of the Candidate :

Note: Use of Cell Phone/Video and Audio recording by the candidate and authorised representatives are not allowed inside the polling booth.

The Institute of Cost Accountants of India
12, Sudder Street, Kolkata – 700 016.

May 11, 2023

Guidelines for the contesting candidates regarding Election Code of Conduct

This is to draw attention of all contesting candidates for Elections to the Council and Regional Councils, 2023 that only one manifesto and extract thereof can be issued after the notification of Final List of Nominations, after Withdrawal of Nominations, as provided in sub-rule (2) of Rule 42 of the said Rules. The manifesto can be only in printed format and no audio or video thereof is permitted. Any candidate using any other manifesto including those which might have been issued earlier and continue to be in circulation, shall make the contesting candidate liable for violation of Election Code of Conduct.

Sd/-
(Kaushik Banerjee)
Returning Officer

<u>CLARIFICATION ON ELECTION CODE OF CONDUCT</u>

Kolkata, Monday, the 15th May, 2023

NOTIFICATION

Further to Guidelines for the contesting candidates regarding Election Code of Conduct issued on 11th May, 2023, this is for clarification of all concerned that manifesto in printed format or extract thereof in soft copy or typewritten can be issued to voters by the contesting candidate within the same region to which the contesting candidate belongs, through electronic media like e-mail, WHATSAPP, SMS, etc. duly complying with the Notification on Election Code of Conduct for Observance by the Candidates and their Authorized Representatives during the Elections issued on 31st March, 2023.

Sd/-
Kaushik Banerjee
Returning Officer

For information of all concerned

The Institute of Cost Accountants of India
12, Sudder Street, Kolkata – 700 016.

ELECTIONS TO THE COUNCIL AND REGIONAL COUNCILS, 2023

Kolkata, the 26th May, 2023

Sub: Despatch of Postal Ballots

No. EL-2023/24: This is for information of all concerned that postal ballots along with connected papers have been despatched by Speed Post to all postal voters of Elections to the Council and Regional Councils, 2023 on 26th May, 2023.

The last date and time for receipt by post of ballot papers at the Headquarters of the Institute at Kolkata back from voters is Saturday, the 1st July, 2023 up to 6:00 P.M.

(Kaushik Banerjee)
Returning Officer

THE INSTITUTE OF
COST ACCOUNTANTS OF INDIA

(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)
CMA BHAWAN, 12, SUDDER STREET, KOLKATA - 700 016.

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Fax No.	:	+91-33-2252-7993
Website	:	www.icmai.in

<u>SPEED POST</u>

Ref. No. EL/2023/5/2023 Dated: 26th May 2023

To

All members whose names appear in the List of Voters published on 31st March, 2023 & subsequent corrigendum/alterations therein and who are eligible to vote by POST in the forthcoming Elections to the Council and Regional Councils of the Institute of Cost Accountants of India

Dear Sir/Madam,

I forward herewith the Ballot Papers relating to the Elections to the Council and Regional Councils, 2023 together with a Memorandum of Instructions. The Ballot Papers should be filled in and returned in accordance with the instructions contained in the enclosed Memorandum of Instructions so as to **reach the undersigned by name on or before 6.00 p.m.** on **1st July, 2023**. A forwarding letter, declaration form, Ballot Paper & inner envelope, one set each for Council Election and Regional Council Election, one outer envelope (with prepaid postage stamp affixed for voters residing within India) and three adhesive stickers are enclosed for your use.

The inner envelope earmarked for the Council contains the Ballot Paper for the Council only.

The inner envelope earmarked for the Regional Council contains the Ballot Paper for the Regional Council only.

These two inner envelopes should be duly closed and sealed with the specified adhesive stickers provided by the Institute. After sealing, the two inner envelopes along with respective forwarding letters and declaration form duly signed shall have to be put in the specified outer envelope and duly closed and sealed with the specified adhesive sticker provided by the Institute, and should be posted in the manner specified in the Memorandum of Instructions so as to **reach the undersigned by name on or before 6.00 p.m. on 1st July, 2023** as stated above.

It may be noted that before the counting commences, all Ballot papers found in ballot boxes and those received by post will be completely mixed up so as to maintain secrecy of their place of origin.

Yours faithfully,

(Kaushik Banerjee)
Returning Officer

(For Memorandum of Instructions, please see the enclosed pages)

POST

MEMORANDUM OF INSTRUCTIONS FOR ELECTIONS TO THE COUNCIL AND REGIONAL COUNCILS, 2023 OF THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

1. A voter shall have one vote only and he/she shall have as many preferences as there are candidates.
2. The voter in order to cast his/her vote:-
   (a) shall place on his ballot paper the number 1 (in Arabic or Roman numerals or in words) in the square opposite the name of the candidate for whom he/she desires to vote; and
   (b) may, in addition, place on his/her ballot paper the number 2, or the numbers 2 and 3 or the numbers 2,3 and 4 (in Arabic or Roman numerals or in words) and so on in the squares opposite the names of other candidates in the order of his/her preference, upto the maximum number of preferences available to him/her under sl. no. 1 mentioned above.
   (c) may put 'X' against whom he/she has not mentioned any preference.
3. A ballot paper shall be invalid :-
   (a) if a voter signs his/her name or writes any word or figure upon it or makes any mark including a tick (✓)/cross (X), not being a mark of 'X' put under sl. no. 2 (c) mentioned above, upon it by which the ballot paper becomes recognisable or by which the voter can be identified; or
   (b) if it is not printed by or under the authority of the Council or it is different in any manner from the ballot papers printed; or
   (c) if number 1 (in Arabic or Roman numerals or in words) is not marked on it; or
   (d) if number 1 (in Arabic or Roman numerals or in words) is set opposite the name of more than one candidate; or
   (e) if number 1 (in Arabic or Roman numerals or in words) and some other numbers are put opposite the name of the same candidate; or
   (f) if it is unmarked or the marks made are void or cannot be unambiguously determined; or
   (g) if it is so damaged or mutilated that its identity as a genuine ballot paper cannot be established.
4. The Postal Ballot papers are to be returned after recording votes in the following manner:
   (1) The Postal ballot paper shall, if he/she desires to vote, be returned by the voter, in the manner mentioned herein below:-
      (a) for a voter residing within India, after recording his/her vote thereon in the manner specified in sl. no. 2 above and in the pre-stamped envelope provided for the purpose from the place to which the ballot paper was sent by the Returning Officer so as to reach him/her on or before 6.00 p.m. on 1st July, 2023. The cover containing the recorded ballot paper shall be accompanied by a declaration of the voter in the declaration form;
      (b) for a voter residing outside India, after recording his/her vote thereon in the manner specified in sl. no. 2 above and by ordinary post or courier or speed post or registered post but from the country to which the ballot paper was sent by the Returning Officer so as to reach him/her on or before 6.00 p.m. on 1st July, 2023. The cover containing the recorded ballot paper shall be accompanied by a declaration of the voter in the declaration form;

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(2) A cover containing ballot paper which does not reach the Returning Officer in the manner specified above on or before 6.00 p.m. on 1st July, 2023 shall not be taken into consideration in the counting of votes.

(3) In regard to covers where the postal stamp of place of posting is not clear or decipherable, the decision taken by the Returning Officer on ascertaining or determining the place or country from which the cover containing the ballot papers is sent shall be final.

(4) The Returning Officer shall disregard all covers containing the voting papers relating to two or more members and posted in one and the same envelope.

(5) If the signature of the voter as appended in the envelope and declaration form does not tally with any of his/her signature as available in the Institute's records, the Returning Officer shall disregard such cover containing the voting paper.

5. After recording his/her vote in the manner prescribed above, a voter should put the respective Ballot Paper in the specified inner envelope provided for that purpose. The inner envelopes should then be securely closed and sealed with the specified adhesive sticker provided by the Institute. The inner envelopes thus closed and the forwarding letter, and declaration form, duly filled in and signed, should then be placed in the outer envelope which should thereafter be securely closed and sealed with the specified adhesive sticker provided by the Institute and forwarded by **Speed Post to Shri Kaushik Banerjee, Returning Officer, The Institute of Cost Accountants of India, CMA Bhawan 12, Sudder Street, Kolkata-700 016, so as to reach him on or before 6.00 p.m. on 1st July, 2023. No mode of sending other than by Speed Post (or by Registered Post if there is no Speed Post Service) will be accepted from voters residing within India. However, a voter residing outside India may forward the same by Ordinary Post or Courier or Speed Post or Registered Post.**

6. A Ballot Paper which is not addressed to the Returning Officer by name and not forwarded in the manner specified in the Memorandum of Instructions or which is received after the due date and hour specified above, or which has not been filled in, in accordance with these instructions, or which has been defaced, spoilt or over-written shall be regarded as invalid.

7. A Ballot Paper sent in envelope not duly closed and sealed with the specified adhesive stickers provided by the Institute shall be regarded as invalid.

8. If Ballot Papers relating to two or more members are posted in one and the same envelope, all such ballot papers shall be regarded as invalid.

9. Special attention is invited in this connection to the Election Code of Conduct issued vide Notification No. EL-2023/10 dated 31st March, 2023.

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The Institute of Cost Accountants of India
12, Sudder Street, Kolkata – 700 016.

ELECTIONS TO THE COUNCIL AND REGIONAL COUNCILS, 2023

Kolkata, the 3rd June, 2023

Sub: Non-receipt of ballot papers or receipt of ballot papers in damaged condition.

No. EL-2023/25: It is hereby notified for information of all concerned that where a ballot paper and other connected papers sent by post to the voters have not been received, damaged in transit or for any reason returned undelivered, they may send their queries to the Returning Officer to email**: postal-ballot@icmai.in** and apply for reissue of the same on submitting sufficient proof of damage or non delivery.

Sd -

(Kaushik Banerjee)
Returning Officer

DIGITAL OBJECT IDENTIFIER (DOI)

Issue: April - 2023 [Vol. 58 No. IV]

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CRYPTO CONUNDRUM: BAN OR LIMITED NOD	Dr. Rajni Dr. Vandana Bansal Dr. Divya Sharma	58	Apr-23	4	53-56	10.33516/maj.v58i4.53-56p
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DECEPTION TECHNIQUE USING REMOTE ACCESS APPLICATION	Kalyani Manish Deshpande Dr. Shailendrakumar Kale	58	May-23	5	70-73	10.33516/maj.v58i5.70-73p
TELEMEDICINE: A MUST FOR DIGITAL HEALTH IN INDIA	N Kavipriya Dr. Selvam Jesiah	58	May-23	5	74-77	10.33516/maj.v58i5.74-77p
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MEASURING COST EFFICIENCY OF INDIAN LIFE INSURANCE COMPANIES DURING THE POST-LIBERALISATION ERA: A FARRELL APPROACH	Dr. Mitrendu Narayan Roy Dr. Siddhartha Sankar	58	May-23	5	87-91	10.33516/maj.v58i5.87-91p
IS THE NEW TAX REGIME BETTER THAN THE OLD FOR SALARIED INDIVIDUALS? (WITH SPECIAL REFERENCE TO UNION BUDGET 2023-24)	Dr. Rakesh Kumar S. Manjhi CA Heena Matalia	58	May-23	5	92-97	10.33516/maj.v58i5.92-97p

Direct & Indirect Tax Updates - May 2023

DIRECT TAXES

- **Notification No. 24/2023 dated 3rd May 2023:** An Agreement and Protocol between the Government of the Republic of India and the Government of the Republic of Chile for the elimination of double taxation and the prevention of fiscal evasion and avoidance with respect to taxes on income, was signed at Chile on the 9th day of March, 2020, as set out in the Annexure to this notification (hereinafter referred to as the Agreement and Protocol).
- **Notification No. 25/2023 dated 10th May 2023:** In exercise of the powers conferred by clause (46) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies for the purposes of the said clause, 'Pune Metropolitan Region Development Authority'(PAN AAALP1603L), an Authority constituted by the state government of Maharashtra, in respect of the following specified income arising to that Authority.

  (a) grants received from the State Government, the Union Government or any other authority or agency. (b) income such as fees, user charges or fines received in the capacity of Local Town Planning Authority. (c) income such as land lease rental received from monetization of Government Lands; (d) stamp duty grant; (e) other miscellaneous income such as penalty charges, sale of tender forms, RTI fees, registration charges from contractors, penalty levied on contractors for defective work; and (f) interest earned on (a) to (e) above.

  This notification shall be effective subject to Pune Metropolitan Region Development Authority:- (a) shall not engage in any commercial activity (b) activities and the nature of the specified income shall remain unchanged throughout the financial years and (c) shall file return of income in accordance with the provision of clause (g) of sub-section (4C) of section 139 of the Income-tax Act, 1961.
- **Notification No. 26/2023 dated 10th May 2023:** In exercise of the powers conferred by clause (46) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies for the purposes of the said clause, 'Food Safety and Standards Authority of India', New Delhi (PAN AAAGF0023K), an Authority established by the Ministry of Health and Family Welfare, Government of India, in respect of the following specified income arising to that Authority.

  (a) grants-in-aid received from the Ministry of Health and Family Welfare (b) statutory fees such as licence fee, registration fee, analysis or testing of food samples fee fixed through regulations made under the Food Safety Act, 2006 (No.34 of 2006) and approved by the Government of India (c) penalty as per the provisions of the Food Safety Act, 2006 (No.34 of 2006) and (d) income earned on (a) to (c) above.

  This notification shall be effective subject to the conditions that Food Safety and Standards Authority of India, New Delhi, (a) shall not engage in any commercial activity (b) activities and the nature of the specified income shall remain unchanged throughout the financial years and (c) shall file return of income in accordance with the provision of clause (g) of sub-section (4C) of section 139 of the Income-tax Act, 1961.
- **Notification No. 27/2023 dated 16th May 2023:** In exercise of the powers conferred by sub-clause (c) of clause (i) of sub-section (3) of section 194A of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies that the Scheme namely the Mahila Samman Savings Certificate, 2023, made in exercise of the powers conferred by section 3A of the Government Savings Promotion Act, 1873 (5 of 1873) and notified vide notification number G.S.R. 237(E) dated the 31st March, 2023.
- **Notification No. 28/2023 dated 22nd May 2023:** In exercise of the powers conferred by section 295 read with section 115BBJ, section 194BA, sub-section (3) of section 200 and proviso to sub-section (3) of section 206C of the Income-tax Act 1961 (hereinafter referred to as 'Act'), the Central Board of Direct Taxes hereby makes the following rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962 (hereinafter referred to as the principal rules), in rule 31A, in sub-rule(4) with effect from 1st July 2023 (a) for clause (ix), the following clause shall be substituted namely:- "(ix) furnish particulars of amount paid or credited on which tax was not deducted or deducted at lower rate in view of the notification issued under second proviso to section 194N or in view of the exemption provided in fourth proviso to section 194N or in view of the notification issued under fifth proviso to section 194N"(b) in clause (xvii), after sub-clause (a), the following sub-clause shall be inserted, namely:- "(aa) winnings in terms of sub-section (2) of section 194BA.
- **Notification No. 29/2023 dated 24th May 2023:** In exercise of the powers conferred by sub-clause (ii)

of the first proviso to clause (viib) of sub-section (2) of Section 56, the Central Government hereby notifies the following class or classes of persons, for the purposes of the said clause. (i) Government and Government related investors such as central banks, sovereign wealth funds, international or multilateral organizations or agencies including entities controlled by the Government or where direct or indirect ownership of the Government is seventy-five percent or more; (ii) Banks or Entities involved in Insurance Business where such entity is subject to applicable regulations in the country where it is established or incorporated or is a resident; (iii) Any of the following entities, which is a resident of any country or specified territory listed in Annexure, and such entity is subject to applicable regulations in the country where it is established or incorporated or is a resident:

(a) entities registered with Securities and Exchange Board of India as Category-I Foreign Portfolio Investors; (b) endowment funds associated with a university, hospitals or charities; (c) pension funds created or established under the law of the foreign country or specified territory; (d) Broad Based Pooled Investment Vehicle or fund where the number of investors in such vehicle or fund is more than fifty and such fund is not a hedge fund or a fund which employs diverse or complex trading strategies.

- **Notification No. 30/2023 dated 24th May 2023:** In exercise of the powers conferred by clause (ii) of the first proviso to clause (viib) of sub-section (2) of section 56 of the Income-tax Act, 1961 (43 of 1961) and in supersession of the notification of Government of India in the Ministry of Finance, Department of Revenue, Central Board of Direct Taxes published in the Gazette of India, Extraordinary, Part-II, Section 3, Sub-section (ii) vide number S.O. 1131(E) dated 5th March 2019, except as respect things done or omitted to be done before such supersession, the Central Government, hereby notifies that the provisions of clause (viib) of sub-section (2) of section 56 of the said Act shall not apply to consideration received by a company for issue of shares that exceeds the face value of such shares, if the said consideration has been received from any person, by a company which fulfills the conditions specified in para 4 of the notification number G.S.R. 127(E), dated the 19th February, 2019 issued by the Ministry of Commerce and Industry in the Department for Promotion of Industry and Internal Trade and published in the Gazette of India, Extraordinary, Part-II, section 3, Sub-Section (i) on 19th February, 2019 and files the declaration referred to in para 5 of the said notification of the Department for Promotion of Industry and Internal Trade. This notification shall be deemed to have come into force from the 1 st day of April 2023.
- **Notification No. 31/2023 dated 24th May 2023:** In exercise of the powers conferred by sub-clause (ii) of clause (10AA) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government, having regard to the maximum amount receivable by its employees as cash equivalent of leave salary in respect of the period of earned leave at their credit at the time of their retirement, whether superannuation or otherwise, hereby specifies the amount of Rs. 25,00,000 (twenty-five lakhs rupees only) as the limit in relation to employees mentioned in that sub-clause who retire, whether on superannuation or otherwise. This notification shall be deemed to have come into force with effect from the 1st day of April, 2023.
- **Notification No. 32/2023 dated 29th May 2023:** In exercise of powers conferred by sub-section (1) of section 249 read with section 295 of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the amendment of the Income-tax Rules, 1962: In Rule 45, Rule 46A and In Appendix-II, in FORM NO. 35.
- **Notification No. 33/2023 dated 29th May 2023:** In exercise of the powers conferred by sub-section (5) of section 246 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby makes the e Appeal Scheme2023.
- **Notification No. 34/2023 dated 30th May 2023:** In exercise of the powers conferred by clauses (i), (ii), (iii) and (iv) of the first proviso to sub-section (5) of section 80G and the third proviso to sub-section (5) of section 80G read with section 295 of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the following rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962, in rule 11AA, for sub-rule (7), the following sub-rule shall be substituted, namely:- “(7) In case of an application made under clause (iv) of the first proviso to sub-section (5) of section 80G of the Act, the provisional approval shall be effective from the assessment year relevant to the previous year in which such application is made.”
- **Notification No. 35/2023 dated 31st May 2023:** In exercise of the powers conferred by clause (XI) of the proviso to clause (x) of subsection (2) of section 56 read with section 295 of the Income-tax

Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the following rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962, in rule 11UAC, for clause (4), the following clause shall be substituted, namely: "(4) any movable property, being equity shares, of a public sector company or a company, received by a person from a public sector company or the Central Government or any State Government under strategic disinvestment.

- **Circular NO. 5 of 2023 dated 22nd May 2023:** Guidelines for removal of difficulties under sub-section (3) of section 194BA of the Income-tax Act, 1961. The new section mandates a person, who is responsible for paying to any person any income by way of winnings from any online game during the financial year to deduct income-tax on the net winnings in the person's user account. Tax is required to be deducted at the time of withdrawal as well as at the end of the financial year. Net winning is required to be computed in the manner as may be prescribed. The manner of computation of net winning has now been prescribed in Rule 133 of the Income-tax Rules 1962.
- **Circular NO. 6 of 2023 dated 24th May 2023:** Clarification regarding provisions relating to charitable and religious trusts. Clarification regarding application of section 115TD for failure to apply to registration/ approval.

INDIRECT TAXES

GST

- **Notification No. 10/2023 Central Tax dated 10th May 2023:** In exercise of the powers conferred by sub-rule (4) of rule 48 of the Central Goods and Services Tax Rules, 2017, the Government, on the recommendations of the Council, hereby makes the following further amendment in the notification of the Government of India in the Ministry of Finance (Department of Revenue), No. 13/2020 –Central Tax, dated the 21stMarch, 2020. In the said notification, in the first paragraph, with effect from the 1stday of August, 2023, for the words "ten crore rupees", the words "five crore rupees" shall be substituted.
- **Notification No. 11/2023 Central Tax dated 24th May 2023:** In exercise of the powers conferred by the proviso to sub-section (1) of section 37 read with section 168 of the Central Goods and Services Tax Act, 2017 (12 of 2017), the Commissioner, on the recommendations of the Council, hereby makes the following further amendment in the notification of the Government of India in the Ministry of Finance (Department of Revenue), No. 83/2020 –Central Tax, dated the 10thNovember, 2020. In the said notification, after the third proviso, the following proviso shall be inserted, namely:

  "Provided also that the time limit for furnishing the details of outward supplies in FORM GSTR-1of the said rules for the tax period April, 2023, for the registered persons required to furnish return under sub-section (1) of section 39 of the said Act whose principal place of business is in the State of Manipur, shall be extended till the thirty-first day of May, 2023."This notification shall be deemed to have come into force with effect from the 11th day of May, 2023.
- **Notification No. 12/2023 Central Tax dated 24th May 2023:** In exercise of the powers conferred by sub-section (6) of section 39 of the Central Goods and Services Tax Act, 2017 (12 of 2017), the Commissioner, on the recommendations of the Council, hereby extends the due date for furnishing the return in FORM GSTR-3B for the month of April, 2023 till the thirty-first day of May, 2023, for the registered persons whose principal place of business is in the State of Manipur and are required to furnish return under sub-section (1) of section 39 read with clause (i) of sub-rule (1) of rule 61 of the Central Goods and Services Tax Rules, 2017.This notification shall be deemed to have come into force with effect from the 20thday of May, 2023.
- **Notification No. 13/2023 Central Tax dated 24th May 2023:** In exercise of the powers conferred by sub-section (6) of section 39 read with section 168 of the Central Goods and Services Tax Act, 2017 (12 of 2017) (hereafter in this notification referred to as the said Act), the Commissioner hereby makes the following further amendment in notification of the Government of India in the Ministry of Finance (Department of Revenue), No.26/2019 Central Tax, dated the 28th June, 2019. In the said notification, in the first paragraph, after the fourth proviso, the following proviso shall be inserted, namely: "Provided also that the return by a registered person, required to deduct tax at source under the provisions of section 51 of the said Act in FORM GSTR-7of the Central Goods and Services Tax Rules, 2017 under sub-section (3) of section 39 of the said Act read with rule 66 of the Central Goods and Services Tax Rules, 2017, for the month of

April, 2023, whose principal place of business is in the State of Manipur, shall be furnished electronically through the common portal, on or before the thirty-first day of May, 2023."This notification shall be deemed to have come into force with effect from the 10thday of May, 2023.

CUSTOMS

- **Notification No. 37/2023-Customs dated 10th May 2023:** In exercise of the powers conferred by sub-section (1) of section 25 of the Customs Act, 1962 (52 of 1962) read with section 124 of the Finance Act, 2021 (13 of 2021), the Central Government, on being satisfied that it is necessary in the public interest so to do, hereby exempts the goods of the description specified in column (3) of the Table falling under the sub-heading or tariff item of the First Schedule to the Customs Tariff Act, 1975 (51 of 1975) (hereinafter referred to as the 'Customs Tariff Act'), as specified in the corresponding entry in column (2) of the said Table, when imported into India, from the whole of the customs duty leviable thereon under the First Schedule to the Customs Tariff Act and from the whole of the Agriculture Infrastructure and Development Cess leviable thereon under the said section of the Finance Act, 2021, subject to the conditions specified in the Annexure to this notification. Seeks to allow imports of Crude Soya-bean Oil and Crude Sunflower Oil at zero Basic Customs Duty and zero Agriculture Infrastructure and Development Cess for TRQ license holders for FY 2022-23 up to the 30th June, 2023.
- **Notification No. 38/2023-Customs dated 23rd May 2023:** Seeks to amend Australia FTA notification to make changes in tariff preference given to Coking Coal and Raw Cotton arising out of Finance Act, 2023.
- **Circular No 11/2023 Customs dated 17th May 2023:** Amnesty Scheme for one time settlement of default in export obligation by Advance and EPCG authorization holders (Notification No.32/2023-Customs dated 26.04.2023).
- **Circular No 12/2023 Customs dated 24th May 2023:** The Central has notified Foreign Trade Policy (FTP) 2023 effective from 01.04.2023. The customs notifications for the purposes of implementation of schemes mentioned in FTP chapters.
- **Circular No 13/2023 Customs dated 31st May 2023:** Faceless Assessment – Re-organisation of National Assessment Centers and Faceless Assessment Groups. Reference is invited to Circular No.40/2020-Customs dated 04.09.2020 on the constitution of National Assessment Centers (NACs), their roles and responsibilities. Following changes are made to the structure of NACs: 1. The number of NACs has been reduced to 8, from the existing 11 (i.e by merging chemicals I, II and III into Chemicals and by merging Automobiles & Instruments and Misc. products/ project imports into Automobiles, Instruments, Misc. products & Project imports. 2. Each of the 8 NACs would now be convened by one Pr. Chief/ Chief Commissioner as indicated in column 1 of the Table in the Annexure. (On the basis of the assessable value of goods imported in the zone in the ascending order).

CENTRAL EXCISE

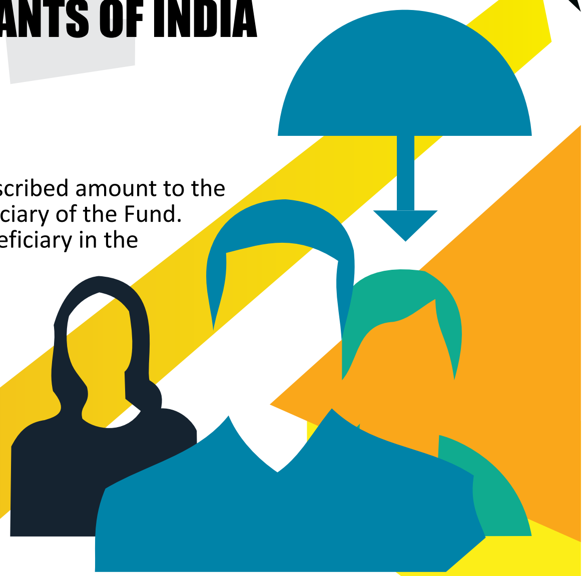
- **Notification No.21/2023-Central Excise dated 1st May 2023:**
  In exercise of the powers conferred by section 5A of the Central Excise Act,1944 (1of 1944) read with section 147 of the Finance Act,2002 (20of2002), the Central Government, on being satisfied that it is necessary in the public interest so to do, hereby makes the following further amendments in the notification of the Government of India in the Ministry of Finance (Department of Revenue),No.18/2022-Central Excise, dated the19thJuly,2022. In the said notification, in the Table, against S.No.1, for the entry in column (4), the entry "Rs.4100 per tonne" shall be substituted. This notification shall come into force on the 02nd day of May, 2023.
- **Notification No.22/2023-Central Excise dated 15th May 2023:**
  In exercise of the powers conferred by section 5A of the Central Excise Act,1944 (1of1944) read with section 147 of the Finance Act, 2002 (20of2002), the Central Government, on being satisfied that it is necessary in the public interest so to do, hereby makes the following further amendments in the notification of the Government of India in the Ministry of Finance (Department of Revenue),No.18/2022- Central Excise, dated the 19th July, 2022. In the said notification, in the Table, againstS.No.1, for the entry in column (4), the entry "Nil per tone "shall be substituted. This notification shall come into force on the 16th day of May, 2023. MA

Sources: incometax.gov.in, cbic.gov.in

Benevolent Fund

FOR THE MEMBERS OF THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

CMA Bhawan, 12 Sudder Street, Kolkata - 700016



OBJECTIVE

The Fund has been created to provide outright grant of prescribed amount to the member in the event of critical illness of a member / beneficiary of the Fund. It is also for outright grant of prescribed amount to the beneficiary in the event of death of a member of the Fund.

LIFE MEMBERSHIP FEE

Onetime payment of ₹7500/-

BENEFITS

- ***Income Tax Benefit under section 80G***
- ***Outright grant not exceeding ₹3,00,000.00/- in each case to the beneficiary in the event of death of the member.***
- ***Outright grant not exceeding ₹1,50,000.00/- in each case to the member and beneficiary for critical illness duly certified by the doctor under whom the treatment is continuing.***

Coverage of Critical Illness, leading to hospitalization, may cover the following -

- Cancer / Malignancy
- Coronary Artery Bypass Graft Surgery
- Stroke / Cerebral Attack / Paralysis
- Heart Valve Replacement Surgery
- Myocardial Infarction (heart attack) / Heart Failure / Pace Maker Surgery / Kidney Dialysis(CKD)/ Renal Failure
- Major Organ Transplant
- Hemophilia
- Thalassaemia
- Neurological Diseases
- Flue Blown acquired Immune Deficiency Syndrome
- Multiple sclerosis
- Tuberculosis / Bronchopneumonia/ Pleurisy
- Permanent disablement
- Any other disease that may be considered by the Board of Trustees to be critical in nature.

To apply for life membership or for further details please visit
https://eicmai.in/External/Home.aspx#

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(Statutory Body under an Act of Parliament)

www.icmai.in

Advisory for Renewal of Certificate of Practice For 2023-24

The members of the Institute holding Certificate of Practice (CoP) having validity up to 31st March, 2023 are requested to comply with the following guidelines for renewal of their Certificate of Practice:

1. The following changes consequent to amendment of the Cost and Works Accountants Regulations, 1959 vide Notification dated 4th February, 2011 published in the Gazette of India may be noted:
    a. The validity of a Certificate of Practice (CoP) is for the period 1st April to 31st March every year unless it is cancelled under the provisions of the Cost and Works Accountants Act and Regulations, 1959 as amended.
    b. The Certificate of Practice issued shall automatically be renewed subject to submission of prescribed Form M-3 (duly filled in) and payment of renewal fee* and annual membership fee*.
    c. From the year 2011-12 onwards, letter for renewal Certificate of Practice is not being issued. However, the members concerned may download the renewal status from the Institute's website www.icmai.in.
    Link: https://eicmai.in/MMS/Login.aspx?mode=EU

2. It may please be noted that under Section 6 of the Cost and Works Accountants Act, 1959, **both the Annual Membership Fee* and Fee for Renewal of Certificate of Practice*** falls due on 1st April each year.

3. Special attention is invited to the fact that the validity of a Certificate of Practice expires on **31st March** each year unless it is renewed on or before the date of expiry in terms of the amended Regulation 10 of the Cost and Works Accountants Regulations, 1959. Hence, a member shall be required to renew the certificate of Practice within **31st March** every year.

4. **If the Certificate of Practice of a member is not renewed within 31st March, 2023, his/her status of CoP from 1st April 2023 till the date of renewal would be "Not Active".**

5. Subject to what has been mentioned in Sl. No. 3 & 4 above, a member can get his/her Certificate of Practice for 2023-24 renewed within **30th June, 2023.** If application for renewal of Certificate of Practice is made after 30th June, 2023, the member's Certificate of Practice for 2023-24 will not be renewed but will be considered as a case of restoration of Certificate of Practice till 31/03/2024. This restoration is applicable only to the CoP holders whose CoP is valid till 31/03/2023. For restoration of Certificate of Practice, he/she has to pay Rs.500/-* as restoration fee in addition to the **prescribed fees * along with duly filled in form 'M-3'.**

6. It may please be noted that mere payment of fees * alone will not be sufficient for renewal of Certificate of Practice. Application in prescribed Form M-3 is to be used for Renewal of Certificate of Practice duly filled in and signed is **mandatory.**The soft copy of prescribed Form M-3 for Renewal of Certificate of Practice can be downloaded from Institute's website www.icmai.in.
Link: https://eicmai.in/external/PublicPages/WebsiteDisplay/PractitionersForms.aspx

7. The Institute has introduced a scheme of Continuing Education Programme (CEP) and the same is mandatory in accordance with provision to sub-regulation (1) of Regulation 10 of the Cost and Works Accountants Regulations, 1959, as amended, whereby no Certificate of Practice and renewal thereof shall be issued unless a member has

undergone minimum number of hours of such training. The detailed guidelines in this connection are available on Institute's website www.icmai.in.
Link: https://icmai.in/upload/Institute/CPD/CEP_Guidelines_01042021_31032024.pdf

8. For renewal and application of new CoP issued on and from 1st February, 2019, please refer to Notification **F. No. CWA/21/2019 dated 1st February, 2019 and subsequent corrigendum dated 8th March, 2019.**
Link: https://icmai.in/icmai/news/5435.php). Accordingly new CoP holders on and from 1st February, 2019 are required to comply with Mandatory Capacity Building Training (MCBT) requirement for renewal of CoP for the FY 2023-24.

9. Other relevant issues for Renewal of Certificate of Practice are as follows:

a. Application for renewal of Certificate of Practice upto 31st March, 2024 has to be made in prescribed Form M-3 which may be filled online or through hard Copy of form duly filled in and signed on both sides together with Renewal Certificate of Practice fee of Rs.2,000/-* and all other dues to the Institute on account of annual membership fees * and entrance fees *.
b. The annual membership fee for Associate and Fellow members are Rs.1,000/-* and Rs.1,500/-* respectively. The entrance fee * for Associate and Fellow members is Rs. 1,000/-* each payable at a time at the time of application for admission to Associateship or advancement to Fellowship, as the case may be.
c. The fees * may be paid online or by Demand Draft/at par cheque payable at Kolkata if remitted by post to the Headquarters of the Institute.
d. Members should note that the **renewal of Certificate of Practice can be effected only after receipt of the prescribed fees * along with duly filled in form at the Headquarters of the Institute and on meeting the stipulated CEP credit hours.** Mere submission of the same at the Regional Councils or Chapters will not be sufficient. Members are advised to make payment directly to the Headquarters or use the online facility of submission of application and payment to avoid any delay.

All practising members are advised to send their application for renewal of Certificate of Practice for the year 2023-24 along with other requirements as indicated above immediately so as to reach the Institute's Office at Kolkata well in advance to enable the Institute to issue the renewal of Certificate by 31st March, 2023.

Renewal of Part-time Certificate of Practice

1. For renewal of part-time Certificate of Practice, it is also essential to furnish a certificate from the employer in the following form or in a form as near thereto as possible if the practising member has undertaken any employment or there has been a change in employment:

"Shri/Smt ……………………………………………………............ is employed as designation)

…………………….. and (name of Organisation) ……………………………………… he/she is

permitted, notwithstanding anything contained in the terms of his/her employment, to engage himself/herself in the practice of profession of Cost Accountancy in his/her spare time in addition to his/her regular salaried employment with us.

Signature of Employers with seal of Organisation"

2. It may be noted that members holding Part-time Certificate of Practice (CoP) are not eligible to undertake statutory assignments like Cost Audit, Central Excise Audit, etc.

**GST is applicable against payment*

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)

RESCHEDULED TIME TABLE & PROGRAMME– JUNE 2023

FOUNDATION COURSE EXAMINATION

(Multiple Choice Questions through offline OMR based from Centre)

<table>
<tr><th rowspan="2">Day & Date</th><th colspan="2">Foundation Course Examination Syllabus-2016</th></tr>
<tr><th>Time 10.00 A.M. to 12.00 Noon.
Paper – 1 & 2 (200 Marks)</th><th>Time 2.00 P.M. to 4.00 P.M.
Paper – 3 & 4 (200 Marks)</th></tr>
<tr><td rowspan="4">Sunday,
16th July, 2023</td><td>Paper – 1 : Fundamentals of Economics & Management (100 Marks 50 Multiple Choice Questions)

Paper – 2 : Fundamentals of Accounting (100 Marks 50 Multiple Choice Questions)</td><td>Paper – 3 : Fundamentals of Laws & Ethics (100 Marks 50 Multiple Choice Questions)

Paper – 4 : Fundamentals of Business Mathematics & Statistics (100 Marks 50 Multiple Choice Questions)</td></tr>
<tr><th colspan="2">Foundation Course Examination Syllabus-2022</th></tr>
<tr><th>Time 10.00 A.M. to 12.00 Noon.
Paper – 1 & 2 (200 Marks)</th><th>Time 2.00 P.M. to 4.00 P.M.
Paper – 3 & 4 (200 Marks)</th></tr>
<tr><td>Paper – 1 : Fundamentals of Business Laws and Business Communication (100 Marks 50 Multiple Choice Questions)

Paper – 2 : Fundamentals of Financial and Cost Accounting (100 Marks 50 Multiple Choice Questions)</td><td>Paper – 3 : Fundamentals of Business Mathematics and Statistics (100 Marks 50 Multiple Choice Questions)

Paper – 4 : Fundamentals of Business Economics and Management (100 Marks 50 Multiple Choice Questions)</td></tr>
</table>

The Institute has decided to conduct June 2023 Foundation Examination through offline OMR centre based.

Examination Fees

Foundation Course Examination	**Inland Candidate**	**₹1200/-**
	Overseas Candidate	**US $ 60**

1. 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).
2. STUDENTS FROM OVERSEAS HAVE TO APPLY OFFLINE AND SEND DD ALONG WITH 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 16th May, 2023.**
5. **The Foundation Examination will be conducted in M.C.Q Mode through offline OMR based from Centre.**
6. **Each paper will carry 100 marks 50 Multiple Choice Questions (Each Question will carry 2 Marks). Each session will have a total of 100 Multiple Choice Questions of 200 marks.**
7. **All Candidates/students are to appear in the Foundation examination through offline OMR centre based.**
8. **A candidate/student who is completing all conditions for appearing in the examination as per Regulations will only be allowed to appear for the examination.**
9. **There is no negative marking.**
10. **Detailed instructions will be provided along with Admit Card.**
11. **Examination Centres: Adipur-Kachchh (Gujarat), Agartala, Agra, Ahmedabad, Akurdi, Allahabad, Angul Talcher, Asansol, Aurangabad, Bangalore, Bankura, Baroda, Berhampur – Ganjam (Odisha), Bharuch Ankleshwar, Bhilai, Bhilwara, Bhopal, Bewar City(Rajasthan), Bhubaneswar, Bilaspur, Bikaner (Rajasthan), Bokaro, Calicut, Chandigarh, Chennai, Coimbatore, Cuttack, Dindigul, Dehradun, Delhi, Dhanbad, Duliajan (Assam), Durgapur, Ernakulam, Erode, Faridabad, Gaya, Ghaziabad, Guntur, Gurgaon, Guwahati, Haridwar, Hazaribagh, Hosur, Howrah, Hyderabad, Indore, Jaipur, Jabalpur, Jalandhar, Jammu, Jamshedpur, Jodhpur, Kalyan, Kannur, Kanpur, Kanchipuram, Kolhapur, Kolkata, Kollam, Kota, Kottakkal (Malappuram), Kottayam, Lucknow, Ludhiana, Madurai, Mangalore, Meerut, Mumbai, Mysore, Nagpur, Naihati, Nasik, Nellore, Neyveli, Noida, Palakkad, Palghar, Panaji (Goa), Patiala, Patna, Pondicherry, Port Blair, Pune, Raipur, Rajahmundry, Ranchi, Rourkela, Salem, Sambalpur, Serampore, Shillong, Shimla, Siliguri, Singrauli (Vindhyanagar), Solapur, Srinagar, Surat, Thrissur, Tiruchirapalli, Tirunelveli, Tirupati, Trivandrum, Udaipur, Vapi, Vashi, Vellore, Vijayawada, Visakhapatnam and Overseas Centres at Bahrain, Dubai and Muscat.**
12. **Probable date of publication of result: To be announced in due course.**

* The Candidates/students are advised to keep regularly in touch with the website of the Institute for further notifications and announcements relating to Foundation Examination of June 2023 and in case of any query or clarification can e-mail us at- exam.helpdesk@icmai.in

CMA Kaushik Banerjee
Secretary

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)

RESCHEDULED INTERMEDIATE AND FINAL EXAMINATION TIME TABLE & PROGRAMME – JUNE 2023

	ATTENTION: INTERMEDIATE & FINAL EXAMINATION (JUNE – 2023 TERM) WILL BE HELD ON ALTERNATE DATES FOR EACH GROUP.			
Day & Date	FINAL (Time: 10.00 A.M. to 01.00 P.M.)		INTERMEDIATE (Time: 2.00 P.M. to 05.00 P.M.)	
	PROGRAMME FOR SYLLABUS 2016	PROGRAMME FOR SYLLABUS 2022	PROGRAMME FOR SYLLABUS 2016	PROGRAMME FOR SYLLABUS 2022
Saturday, 15th July, 2023	Corporate Laws & Compliance **(P-13)**	Corporate and Economic Laws **(P-13)**	Financial Accounting **(P-05)**	Business Laws and Ethics **(P-05)**
Sunday, 16th July, 2023	Corporate Financial Reporting **(P-17)**	Cost and Management Audit **(P-17)**	Operations Management & Strategic Management **(P-09)**	Operations Management and Strategic Management **(P-09)**
Monday, 17th July, 2023	Strategic Financial Management **(P-14)**	Strategic Financial Management **(P-14)**	Laws & Ethics **(P-06)**	Financial Accounting **(P-06)**
Tuesday, 18th July, 2023	Indirect Tax Laws & Practice **(P-18)**	Corporate Financial Reporting **(P-18)**	Cost & Management Accounting and Financial Management **(P-10)**	Corporate Accounting and Auditing **(P-10)**
Wednesday, 19th July, 2023	Strategic Cost Management – Decision Making **(P-15)**	Direct Tax Laws and International Taxation **(P-15)**	Direct Taxation **(P-07)**	Direct and Indirect Taxation **(P-07)**
Thursday, 20th July, 2023	Cost & Management Audit **(P-19)**	Indirect Tax Laws and Practice **(P-19)**	Indirect Taxation **(P-11)**	Financial Management and Business Data Analytics **(P-11)**
Friday 21st July, 2023	Direct Tax Laws and International Taxation **(P-16)**	Strategic Cost Management **(P-16)**	Cost Accounting **(P-08)**	Cost Accounting **(P-08)**
Saturday, 22nd July, 2023	Strategic Performance Management and Business Valuation **(P-20)**	**Electives (Any one of three Papers) :** (i) Strategic Performance Management and Business Valuation **(P-20A)** (ii) Risk Management in Banking and Insurance **(P-20B)** (iii) Entrepreneurship and Start up **(P-20C)**	Company Accounts & Audit **(P-12)**	Management Accounting **(P-12)**

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 15th May, 2023.
5. The mode of examination will be offline-centre based.
6. The provisions of Direct Tax Laws and Indirect Tax Laws, as amended by the Finance Act, 2022, including notifications and circulars issued up to 30th November, 2022, are applicable for June, 2023 term of examination for the Subjects:
   Paper 7 - Direct Taxation, Paper 11 - Indirect Taxation (Intermediate), Paper 16 - Direct Tax laws and International Taxation and Paper 18 - Indirect Tax Laws & Practice (Final) under Syllabus 2016, &Paper 7 (Section A) – Direct Taxation, Paper 7 (Section B) – Indirect Taxation (Intermediate), Paper 15 - Direct Tax laws and International Taxation and Paper 19 - Indirect Tax Laws and Practice (Final).
   The relevant Assessment Year is 2023-24. For statutory updates and amendments please refer to the links:
   Syllabus 2016 : https://icmai.in/studentswebsite/Syl-2016.php Syllabus 2022:https://icmai.in/studentswebsite/Supplementary_Syllabus_2022_June_2023.php
7. Companies (Cost Records and Audit) Rules, 2014 as amended up to 30th November, 2022 is applicable for June, 2023 term of examinations under Syllabus 2016: Paper 12- Company Accounts and Audit (Intermediate Level)and Paper 19 - Cost and Management Audit (Final Level) & under Syllabus 2022: Paper 10 – Corporate Accounting and Auditing (Intermediate Level) and Paper 17 - Cost and Management Audit (Final Level). For updates and amendments please refer to the links:
   Syllabus 2016 : https://icmai.in/studentswebsite/Syl-2016.php and Syllabus 2022https://icmai.in/studentswebsite/Supplementary_Syllabus_2022_June_2023.php
8. The provisions of the Companies Act 2013 are applicable for Paper 6 - Laws and Ethics (Intermediate Level) and Paper 13 - Corporate Laws and Compliance (Final Level) under Syllabus 2016 &
   for Paper 5 – Business Laws and Ethics (Intermediate Level) and Paper 13 - Corporate and Economic Laws (Final Level) under Syllabus 2022 to the extent notified by the Government of India up to 30th November, 2022 are applicable for June, 2023 term of examinations.
   Please refer to the links: Syllabus 2016 : https://icmai.in/studentswebsite/Syl-2016.php and Syllabus 2022 https://icmai.in/studentswebsite/Supplementary_Syllabus_2022_June_2023.php
9. For amendments and supplementary up to 30th November,2022 in Paper 5 - Financial Accounting, Paper 12 - Company Accounts and Audit (Intermediate Level) and Paper 17 - Corporate Financial Reporting (Final Level) of Syllabus 2016 &
   Paper 6 - Financial Accounting, Paper 10 – Corporate Accounting and Auditing (Intermediate Level) and Paper 18 - Corporate Financial Reporting (Final Level) of Syllabus 2022, applicable for June, 2023 term of examinations please refer to the following links:
   Syllabus 2016 : https://icmai.in/studentswebsite/Syl-2016.php and Syllabus 2022 https://icmai.in/studentswebsite/Supplementary_Syllabus_2022_June_2023.php
10. Examination Centres: Adipur-Kachchh (Gujarat), Agartala, Agra, Ahmedabad, Akurdi, Allahabad, Angul Talcher, Asansol, Aurangabad, Bangalore, Bankura, Baroda, Berhampur – Ganjam (Odisha), Bharuch Ankleshwar, Bhilai, Bhilwara, Bhopal, Bewar City(Rajasthan), Bhubaneswar, Bilaspur, Bikaner (Rajasthan), Bokaro, Calicut, Chandigarh, Chennai, Coimbatore, Cuttack, Dindigul, Dehradun, Delhi, Dhanbad, Duliajan (Assam), Durgapur, Ernakulam, Erode, Faridabad, Gaya, Ghaziabad, Guntur, Gurgaon, Guwahati, Haridwar, Hazaribagh, Hosur, Howrah, Hyderabad, Indore, Jaipur, Jabalpur, Jalandhar, Jammu, Jamshedpur, Jodhpur, Kalyan, Kannur, Kanpur, Kanchipuram, Kolhapur, Kolkata, Kollam, Kota, Kottakkal (Malappuram), Kottayam, Lucknow, Ludhiana, Madurai, Mangalore, Meerut, Mumbai, Mysore, Nagpur, Naihati, Nasik, Nellore, Neyveli, Noida, Palakkad, Palghar, Panaji (Goa), Patiala, Patna, Pondicherry, Port Blair, Pune, Raipur, Rajahmundry, Ranchi, Rourkela, Salem, Sambalpur, Serampore, Shillong, Shimla, Siliguri, Singrauli (Vindhyanagar), Solapur, Srinagar, Surat, Thrissur, Tiruchirapalli, Tirunelveli, Tirupati, Trivandrum, Udaipur, Vapi, Vashi, Vellore, Vijayawada, Visakhapatnam 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 – 26th September, 2023.

* The candidates/students are advised to keep regularly in touch with the website of the Institute for further notifications and announcements relating to Examination of June 2023 and in case of any query or clarification can e-mail us only at exam.helpdesk@icmai.in

CMA Kaushik Banerjee
Secretary

To
ALL MEMBERS OF THE INSTITUTE

You are requested to send the duly filled in and signed form printed below to the **Secretary, The Institute of Cost Accountants of India, CMA BHAWAN 12, Sudder Street, Kolkata - 700016** by post or coloured scanned copy of the filled up form through email attachment to membership.response@icmai.in. This will be maintained at the Institute's end and used for verification as and when required.
Clear coloured scanned copy preferably in pdf format is only acceptable.

(Kaushik Banerjee)
Secretary

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)

SPECIMEN SIGNATURE CARD

Members of the Institute are requested to provide their specimen in the following format and send the same positively

PLEASE AFFIX ONE RECENT PASSPORT SIZED PHOTOGRAPH HERE
SIGNATURE IN BLACK INK

(Please affix one recent passport-size photograph and sign below the same in black ink. Please don't sign across the photograph)

I, Shri/Ms.. am giving below my specimen signature for the Institute's record.

Previous Signature :	

Current Specimen Signature	
1.	**2.**
3.	**4.**

Salutation	Mr. / Mrs. / Ms. / Dr.	**FULL NAME OF THE APPLICANT**
First *		
Middle		
Last *		

Membership No. *		Date of Birth *	Day / Month / Year
Mobile		Email	

ISD Code		STD Code		Phone No.	

Place :

Date :

Signature of Member
(In Black Ink)

Note:

- (*) marked fields are mandatory.
- The above form should be sent to the **Secretary, The Institute of Cost Accountants of India, CMA BHAWAN, 12, Sudder Street, Kolkata – 700016** or coloured scanned copy of the filled up form through email attachment to **membership.response@icmai.in**.
- Please use **Black Ink** for signature.
- Please put your **specimen signature in all the 4 boxes.**
- Please intimate your Email-id and Mobile No.

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