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SUPPLY CHAIN
PLANNING

LOGISTICS

SUPPLY
CHAIN
MANAGEMENT

PROCUREMENT

ASSET
MANAGEMENT

Integrated

Supply Chain Management

Journal of

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The Institute of Cost Accountants of India is a premier professional Institute and a Statutory Body established under an Act of Parliament under the administrative control of **Ministry of Corporate Affairs (MCA), Government of India** to regulate and develop the profession of Cost and Management Accountancy (CMA) in the country.

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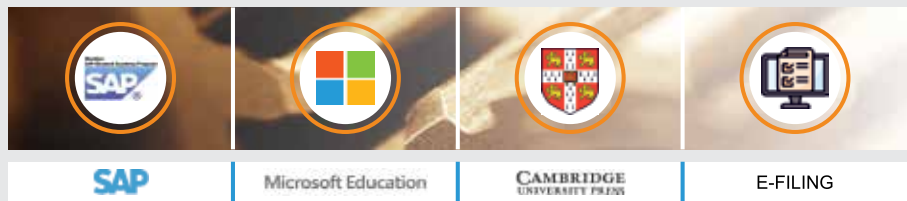
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- THE INSTITUTE OF COST ACCOUNTANTS OF INDIA (erstwhile The Institute of Cost and Works Accountants of India) was established in 1944 as a registered company under the Companies Act with the objects of promoting, regulating and developing the profession of Cost Accountancy.
- On 28 May 1959, the Institute was established by a special Act of Parliament, namely, the Cost and Works Accountants Act 1959 as a statutory professional body for the regulation of the profession of cost and management accountancy.
- It has since been continuously contributing to the growth of the industrial and economic climate of the country.
- The Institute of Cost Accountants of India is the only recognised statutory professional organisation and licensing body in India specialising exclusively in Cost and Management Accountancy.

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- to ensure sound professional ethics
- to keep abreast of new developments

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Institute Motto

असतोमा सदग्रामय
तमसोमा ज्योतिर्गमय
मृत्योर्मा मृतं 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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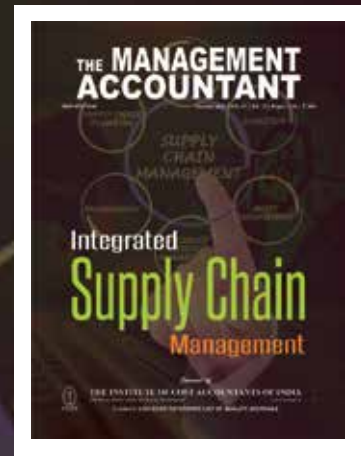
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EDITORIAL

Supply Chain Management is a multi-faceted process with many stakeholders and even more moving parts. New technology aims to make the supply chain more efficient, yet investing in the wrong technology further complicates productivity while hindering profitability, causing supply chain issues and problems in the supply chain. Effective supply chain management offers numerous benefits for companies, so overcoming challenges to keep things running smoothly is a top priority for supply chain professionals.

The pandemic has disrupted distribution on a global scale. Increased border controls and customs regulations result in longer wait times, and lack of capacity for long-haul and last-mile fulfilment create extreme challenges. As a result, organizations are accelerating their digital transformations with logistics businesses starting to introduce capabilities like real-time order monitoring, end-to-end inventory visibility, and super-reverse logistics experiences. But businesses can also use this opportunity to reset their operations with digital capabilities and renew logistics operating models to increase operational efficiency and effectiveness. Doing so will enable them to emerge stronger and with supply chains that are more resilient to future disruptions.

In an integrated supply chain process, every phase from procurement of raw materials to production, quality control to packaging, distribution or supply to eventual delivery is streamlined and inseparable. It is a holistic collective of the various processes, which may be under complete control of one company or multiple partners will come together to have collective control over the integrated process. In recent years, the Indian logistics sector has witnessed robust growth. In fact, it steadied post the onset

of COVID-19 — courtesy of the rising retail and manufacturing ecosystem in the country. Modern technology-driven integrated logistics platforms and service providers are spearheading the new normal of transportation.

Predominantly, trucking in India is considered a non-tech and manually-run business. The majority of the transport firms are either small or very small units, directly impacting their ability to streamline and digitise operations. However, cloud computing has enabled the building of integrated logistics platforms and marketplaces. Tech-driven logistics companies are enabling transporters and shippers to do business online, optimize operations through automated process support, conduct online payments, and document digitally. Cloud technology also enables safe storage and sharing of data and offers anytime anywhere access to users — factors helping speed up deliveries, revenue generation, and customer satisfaction for various stakeholders.

The sector is combining Artificial Intelligence (AI), the (Internet of Things) IoT, and data analytics to improve its performance. AI helps in superior vehicle-load matching, enabling faster deployment of the right resources to transport the right cargo, and reducing the effort and time spent for the stakeholders. Data analytics proves crucial in monitoring performance, maintenance schedules, and accurately assessing an asset's operational value throughout its lifecycle. Notably, even minor tech-driven enhancements that can save even an hour of on-road time per trip can lead to incremental savings in fuel consumption and wages, bringing the operational costs down.

Greener transportation methods are rising too. Electric two-wheelers, three-wheelers and light commercial vehicles are becoming popular as companies



replace their existing fleet with greener vehicles. From building smarter warehouses with energy-efficient systems to creating greener cold supply chains and solar-powered, temperature-controlled units, the logistics and supply chain sector will integrate smart and planet-friendly systems in their operations. With a revival in consumer demand, a burgeoning e-commerce, an optimistic market, better road infrastructure and a reduction in transport time—the logistics sector in India is expected to grow favourably.

India is projected to play a pivotal role in redesigning the global supply chain and contribute more than \$500 billion annually to the global economy by 2030. Reducing logistics cost and time, ramping up the manufacturing sector with incentives, and driving more efficiency across the supply chain will bring India closer to achieving this milestone. While considering the global scenario, the hon'ble Prime Minister of India's clarion call 'Vocal for Local' has the potential to disrupt supply chains and effectively position India as a "manufacturer for the world". Professionals like Cost & Management Accountants are competent enough to assess supply chain risks and help to frame risk mitigation strategies. CMAs can play an increasingly vital role in Supply Chain Management. CMAs can also facilitate the management in analysing cost and benefit associated with various decisions taken concerning designing, conversion and execution efforts.

This issue presents a good number of articles on the cover story "Integrated Supply Chain Management" written by distinguished experts. Further, we look forward to constructive feedback from our readers on the articles and 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 will enjoy the articles.

May this Dussehra fill your life with happy moments, positivity and fulfil all your dreams. Also, wishing you a blessed, healthy and prosperous Diwali ahead.

THE MANAGEMENT ACCOUNTANT

PAPERS INVITED

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

November 2022	Theme Emerging trends in Telecom Industry in India	Subtopics <ul style="list-style-type: none"> ○ Evolution of Indian telecom infrastructure over the years ○ Overview on industry readiness of India for 5G ○ 'Broadband for all': Bridging the Digital Divide ○ The advent of 'Gati Shakti': Powering telecom infrastructure ○ Network Expansion and Investments ○ Aatmanirbharata in Telecom Manufacturing ○ Cost economics of active infrastructure sharing ○ Delivering densification – Streamlining the rollout of 5G networks in urban areas ○ Challenges plaguing the Indian telecom tower and infrastructure industry
December 2022	Theme Future of Accounting Profession: Challenges & Opportunities	Subtopics <ul style="list-style-type: none"> ○ International Financial Reporting Standards (IFRS) and Corporate Governance ○ Green Accounting – A tool to quantify Environmental Sustainability ○ Accounting Information System (AIS): An Overview ○ Demystify the ESG landscape: Best Practices for ESG reporting, and the critical role for Finance Professionals ○ Changing role of New Gen Accountants in Rebuilding the global economy post Pandemic ○ Sustainability Accounting and Reporting ○ Digital Financial Reporting: The Way Forward ○ Rebooting of accounting skillsets to stay competitive in the digital age ○ Accounting for Cryptocurrencies
January 2023	Theme Emerging Trends in Banking: Transforming Customer Experience	Subtopics <ul style="list-style-type: none"> ○ Privatization of Public Sector Banks (PSBs): A Boon or Bane ○ Evolution of Smart Data, RPA & AI in Indian Banking Sector ○ Metaverse: the next frontier for the Digital Banking ○ Neo-banking: Shaping the future of India's direct-to-consumer (D2C) ecosystem ○ Linkage of Core Banking System and India Post: A welcoming approach ○ Credit outreach drive by PSBs as a part of Azadi Ka Amrit Mahotsav ○ Enhanced Access and Service Excellence (EASE) 5.0, a 'Common reforms agenda' for PSBs ○ 3-yr roadmap strategy to support SMEs and farming under EASE reforms ○ Retail Banking in India: Re-inventing and repositioning to attain Financial Wellness ○ Setting New Standards to achieve Governance, Transparency and Excellence-Role of CMAs
February 2023	Theme Infrastructure Investment in Emerging Markets: Trends and Challenges	Subtopics <ul style="list-style-type: none"> ○ Indian Infrastructure: Leveraging past experiences for Future Growth ○ Debt Sustainability of Infra Investment ○ Infrastructure Resilience Post Pandemic ○ Investing in Energy Infrastructure for the Climate Transition ○ Strengthening Infrastructure Governance ○ Integration of ESG - SDG factors for infrastructure Investment Decisions ○ Financing Quality Infrastructure Investment in the Asian Economies ○ Achieving Sustainability and Cost Competitiveness through apt Infra Investment ○ Framing Guidance for Implementing Quality Infrastructure Investment: Role of CMAs

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

Articles on the above topics are invited from readers and authors along with scanned copies of their recent passport size photograph and scanned copy of declaration stating that the articles are their own original and have not been considered for 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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CMA P. Raju Iyer

President

The Institute of Cost Accountants of India

“Take risks in your life, If you win, you can lead! If you loose, you can guide!”

- Swami Vivekananda

My Dear Professional Colleagues,

In India, every month has its own significance when it comes to festivals and the most important festivals start in the month of October making it the month of great joy, happiness, and celebrations. The ‘Festival of Light’ is celebrated with amazing enthusiasm in the country by lighting lamps which signify the victory of good over evil. May this Diwali illuminate your life & bring the shower of glory, prosperity, health and peace. Wishing you and family a very Happy Diwali in advance!

Results of June 2022 term examination

I convey my heartiest congratulations to all students who have passed the June 2022 term examination of the Intermediate and Final Course. I wish the newly qualified CMAs a bright career ahead and also wish best of luck to all those students who could not cross the line this time.

PRESIDENT'S COMMUNIQUE

CMA Campus Placement drive

I am pleased to announce that the Institute is going to organize 12-days Orientation Programme followed by CMA Campus Placement drive during the month of October & November 2022 for newly qualified CMAs of June 2022 term examinations.

I must congratulate CMA Debasish Mitra, Chairman, Members in Industry & Placement Committee and his team members for taking this noble initiative for the benefit of qualified CMAs.

I urge all the members of the Institute to come forward and support generously to boost up our Campus Placement drive. I request prospective corporate to extend their support to make this Campus Placement drive a great success.

Wishing all the qualified CMAs participating in this campus placement drive come out with flying colours!

MOU with Jio Platforms Limited

I am delighted to inform that the Institute has signed an MOU with Jio Platforms Limited on 29th September, 2022 at CMA Bhawan, New Delhi. This MOU is aimed to contribute towards Institute's objective to promote, regulate and develop the profession of Cost and Management Accountancy in more effective way through digital technology in reaching to its stakeholders – Students, Members and Society at large.

The MOU signing ceremony was witnessed by CMA Vijender Sharma, Vice President of the Institute, CMA Ashwin G Dalwadi, Chairman IT Committee, CMA Chittaranjan Chattopadhyay, Council member, CMA (Dr.) K Ch A V S N Murthy, Council member and CMA Kaushik Banerjee, Secretary of the Institute. On behalf of Jio Platforms Limited, the MOU signing ceremony was joined by CMA (Gp Capt) Rajendra Kumar Joshi (Retd.), Senior Vice President (Strategy & Planning), Jio Platforms Limited, Shri Balasubramaniam Iyer, Vice President, Telecom Products, Jio Platforms Limited, Shri Manish

Kumar, Vice President, Business Planning & Policy, Jio Infocomm Ltd, Shri Ankit Garg, Vice President Sales, Jio Infocomm Ltd.

MOU with Kalinga Institute of Social Sciences (KISS), Bhubaneswar, Odisha

I am happy to inform that an MOU has been signed between the Institute and Kalinga Institute of Social Sciences (KISS), deemed to be University at KISS Campus, Bhubaneswar, Odisha on 17th September, 2022.

The MOU was signed by me in the presence of CMA Niranjan Mishra, Council Member and Chairman, Committee on Cost Management for Public and Government Services, CMA Santanu Kumar Rout, Chairman, Bhubaneswar Chapter and CMA Surya Narayan Tripathy, Secretary, Bhubaneswar Chapter of the Institute. On behalf of KISS, deemed to be University, Prof. Deepak Kumar Behera, Vice Chancellor signed the MOU in the presence of Shri Sudipta Kumar Nanda, Faculty, Shri R N Swain, Faculty, Shri Udayan Mohanty, Faculty and other Staffs & Students.

All Odisha CMA Practitioners Meet

I am pleased to inform that the Bhubaneswar Chapter of the Institute has successfully organized the All Odisha CMA Practitioners Meet on 18th September 2022 on the theme “From Better to the Best – Journey of Practicing CMAs” at CMA Bhawan, Nayapalli, Bhubaneswar.

I had the pleasure to inaugurate the Meet as “Chief Guest”. CMA Santanu Kumar Rout, Chairman, Bhubaneswar Chapter delivered welcome address. CMA (Dr.) Ashish P Thatte, Council Member and Chairman, Corporate Laws Committee addressed the participants on “Ethics and insight to Cost Accounting Standards”, CMA Niranjan Mishra, Council Member and Chairman, Committee on Cost Management for Public and Government Services deliberated on “Avenues in Banking Sectors - Insight to stocks and receivable Audits”, CMA Ajay Deep Wadhwa, Past Chairman, EIRC on “Industry Expectation from Practicing Cost Accountants”, CMA Shiba Prasad Padhi, Past Chairman, EIRC on “Road Map for

the Beginners and Scopes in Insurance Sectors”, CMA Suresh Chandra Pattanayak, Practicing Cost Accountant on “A Road Map on Valuation and Insolvency Professional” and CMA Asutosh Debata, Vice Chairman, Bhubaneswar Chapter on “Project Financing & Management”. CMA Saktidhar Singh, Past Chairman and Chairman PD Committee of the Bhubaneswar Chapter facilitated the programme and extended formal vote of thanks.

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 of the Institute and the BFSI department continued its various activities and initiatives during the month of September 2022 under the Chairmanship of CMA Chittaranjan Chattopadhyay, Council Member of the Institute.

Meeting with dignitaries

CMA Chittaranjan Chattopadhyay, Chairman, BFSIB met Shri J.Venkatramu, MD & CEO of India Post Payments Bank Limited on 16th September, 2022 in Delhi. The Chairman discussed the activities of the BFSIB and the Institute and also brought to the notice of Shri J.Venkatramu about the disparity caused by their advertisement for the post of DGM (F&A) where CMAs have not been included.

CMA Chittaranjan Chattopadhyay, Chairman, BFSIB met Shri Rajib Sen, Senior Advisor, MSME, NITI Aayog at his Office in Delhi and appraised him about the activities of Task Force on MSME & Start-up formed by the Institute.

a. Certificate Course on General Insurance in association with National Insurance Academy (NIA)

The 2nd batch admissions of the course have already started for the members and students. I call upon all finance professionals to avail the opportunity of

enrolling in the course for skill development and capacity building in the Insurance Sector. BFSIB and NIA are developing the modalities of the Level-2 of the certificate course and I am sure that it will also be very popular.

Like all other courses of the Institute, I am sure that members and students who wish to take up the three certificate courses on Banking will greatly benefit towards their skill development and knowledge enhancement.

b. Banking Courses

The course curriculum of the BFSI courses are reviewed by the Faculties of the BFSI courses and I am informed that an online meeting was organized by The Chairman BFSIB which was participated by all the faculties of the BFSI courses on 16th September, 2022. Necessary amendments in the syllabi and study materials were discussed with a view to keep the pedagogy updated and relevant for today's future ready professionals. I am confident that the revised curriculum will greatly benefit the participants and I urge all interested to complete all the three courses being offered and get benefitted by knowledge enhancement.

c. Certificate Course on Investment Management in association with NISM

NISM and the BFSI Board had started the Batch No. 4 of Level-II of the Investment Management on 17th September, 2022. Ms. Monika Halan, Chairperson, Advisory Committee for Investor Protection and Education Fund and Adjunct Professor of NISM deliberated in the inaugural session. CMA Chittaranjan Chattopadhyay, Chairman, BFSIB and CMA Dr. Latha Chari, Professor of NISM were present for the inaugural session.

d. Representation letters for inclusion of CMAs

The BFSIB continues its efforts for further development of the profession in the BFSI sector with representations to authorities and employers for inclusion of CMAs in the sector. I am happy to announce that CMAs are now included as a desirable qualification for the post of Chief Executive Officer of

Vardhaman Bank and Assistant Manager (Finance and Accounts) of Bharatiya Reserve Bank Note Mudran Private Limited.

e. Sale of Aide Memoire on Infrastructure Financing

The handbook released by BFSIB, titled 'Aide Memoire on Infrastructure Financing' for benefit of all stakeholders has been very well accepted by all. The members, students and others can get their copies through online purchase via the link https://eicmai.in/booksale_bfsi/Home.aspx.

f. Webinar on the topic of "CMAs as General Insurance Surveyors and Loss Assessors - Scope & Opportunity".

The BFSIB conducted a webinar on "CMAs as General Insurance Surveyors and Loss Assessors-Scope and Opportunity" on 20th September, 2022 where the resource person was CMA Jacky Singh -Surveyor and Loss Assessor.

g. Upcoming Hybrid Programme on the topic of "Financial Freedom through stock market investing" :

I have been informed that the BFSIB is organizing a Hybrid Programme on the topic of "Financial Freedom through stock market investing" on 28th October, 2022 at Kolkata on offline mode with live streaming. CMA Basant Maheswari, Renowned Portfolio Manager would be present as the Chief Guest in a Fireside Chat with CMA Dr. Sunder Ram Korivi, Academic Head, HSNC University and Adjunct Faculty of IICA, MCA. I wish the programme a grand success and I call upon members and students to physically attend the programme if possible or attend through live streaming in case it is not possible to attend in person in Kolkata. Further details of the programme and registration process will be made available on the Institute's website in due course.

CONTINUING EDUCATION PROGRAMME COMMITTEE

I am pleased to inform that Continuing Education

Programme Committee has successfully organised a programme on “Practical Aspects of Cost Audit” at Puducherry. The Committee also organised a webinar on “MCA21 V3-New Ways of e-Filing under V3 Regime”.

During the month, around Forty webinars and programmes were organised by the different committees of the Institute, Regional Councils and Chapters of the Institute on the topics of professional relevance and importance like Cost Accounting Standard & Practical Aspects in to the Cost Audit, Risk Assessment and Estimation of Cost of Risk, Get Ready to file GSTR 9 & GSTR 9C for FY 2021-22, CMAs as General Insurance Surveyors and Loss Assessors - Scope & Opportunity, Governance through Cost Accounting and Financial Statements Valuation under the Companies Act 2013 and so on. I am sure our members are immensely benefited from the deliberations in the sessions.

DIRECTORATE OF CAT

◎ CAT Course for Employees of the Institute

As we all are aware that CMA H. Padmanabhan has always been very receptive towards the requirements of the student, ROCCs and other stakeholders of the Institute. Whenever we think this is the best he has done, he comes with another good deed. This time, the employees of the Institute are the beneficiaries of his out-of-the-box thinking. Based on his idea and recommendation of Committee for Accounting Technicians, I and all Council Members of the Institute are pleased to extend the benefits of CAT course free of cost to the workforce (Permanent/Contractual) of the Institute working at its Headquarters, Delhi office, Regional Councils, Chapters, Overseas Centres, and Centres of Excellence office and Section 8 Companies promoted by the Institute, including their dependent wards/spouse. This step will be beneficial not only for the employees who would pursue CAT course, but for the Institute as well because they will become well versed with the entry level accounting function. The enriched employees would be hence able to return through their services to the Institute more effectively in the area of accounting, taxation & finance.

◎ CAT Course Part-II Assessment Tests for CAT Students

The assessment tests for the CAT Course Part-II students were conducted from 5th-30th September 2022. I congratulate team CAT for its endeavours under the leadership of Chairman-CAT. I also congratulate the students who have passed CAT Course Part-II assessment tests.

◎ Event organised by the ROCC

I am glad to see the way CMA H. Padmanabhan, Council Member & Chairman (CAT) leads from the front to take Certificate in Accounting Technicians (CAT) course to the new heights. It is remarkable to see the personal touch he gives to the stakeholders to make them feel motivated towards popularising the CAT course. In this regard, he made his esteemed presence during the inauguration of the new campus of an ROCC- ICMS; the campus was inaugurated by Sri. Ahamed Devarkovil, Minister for Ports, Govt of Kerala on 5th September, 2022 at Edarikode, Kottakkal amid presence of Sri KPA Majeed, MLA Tirurangadi.

◎ Career Counselling

The CAT Directorate on 19th September, 2022 conducted a career counselling session at IIS University, Jaipur. The session was well received by the prospective students and the faculty members of the IIS. I wish the CAT Directorate all the best for its endeavours towards career counselling and hope that soon the career counselling sessions would be taken up regularly across the country.

MEMBERS IN INDUSTRY & PLACEMENT COMMITTEE

◎ Seminar on ‘Renewable Energy: The Next Big Revolution!’

I am pleased to share that the Members in Industry & Placement Committee organized a Seminar on ‘Renewable Energy: The Next Big Revolution!’ on 10th September 2022 at J.N. Bose Auditorium, CMA Bhawan, Kolkata. The Chief Guest and Keynote Speaker was CMA Rajneesh Jain, President & CFO, Reliance Jio, Mumbai. Shri Suresh Kumar

R.V, Deputy Accountant General, Indian Audit & Accounts Department was the Guest of Honour. CMA Debasish Mitra, Chairman, Members in Industry & Placement Committee offered the welcome address. CMA Biswarup Basu, Immediate Past President and Council Members CMA Ashwin Dalwadi, CMA H Padmanabhan, CMA Chittaranjan Chattopadhyay, CMA Dr. V. Murali addressed the audience. More than 125 participants including members and students attended the event physically and more than 1000 viewers enjoyed the session virtually.

🕒 Campus Placement Initiative

The Members in Industry & Placement Committee organized a Mega Campus Placement Drive on behalf of The West Bengal Power Development Corporation Limited (WBPDC) [A Govt. of West Bengal Enterprise] to facilitate fresh as well as experienced CMAs at Kolkata on 17th September 2022. Around 300 CMAs across India participated in the placement drive.

PROFESSIONAL DEVELOPMENT COMMITTEE

As you may be aware that Institute is organising the National CMA Practitioners Convention 2022 on 7th & 8th October at Pune, Maharashtra. I am looking forward to welcome you all at the convention. I urge the practitioners to participate in large number to the make event a grand success. It will also be a very good opportunity for the budding professionals to understand about the world of the Practicing CMAs, opportunities and challenges alike.

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 September 2022, where services of the Cost Accountants are required in Rajasthan Housing Board, Chhattisgarh State Co-operative Marketing Federation Limited, Assam State Transport Corporation, NHPC Limited, Himachal Pradesh Power Transmission Corporation Limited, Narmada Clean Tech Limited, Aarogyasri Health Care Trust, North Eastern Electric Power Corporation Limited,

Rajasthan State Road Transport Corporation, National Health Mission Chhattisgarh, SJVN Thermal Pvt. Limited, Central Railside Warehouse Company Limited, Punjab National Bank, Oil India Limited, Andrew Yule Company Limited, Uttar Pradesh State Construction And Infrastructure Development Corporation Limited (UPSCIDCL), Bihar Education Project Council, The Jammu & Kashmir Project Construction Corporation Limited, Brahmaputra Valley Fertilizer Corporation Limited, Chandigarh International Airport Limited, Mahanadi Coalfields Limited, National Highways Authority of India, Indian Institute of Technology Kharagpur, Airports Authority of India (AAI), Bihar State Agriculture Marketing Board, Security Printing And Minting Corporation of India Limited, HIL (India) Limited etc.,

Further, Professional Development Committee in association with PHD Chamber of Commerce and Industry organised webinar on “Get Ready to file GSTR 9 & GSTR 9C for FY 2021-22”.

TASK FORCE ON MSME & START-UP

The members of the Task Force on MSME & Start-up decided to form an Editorial Team for a bulletin on MSMEs & Start-ups. The Editorial Team was formed comprising of CMA (Dr.) Sreehari Chava, as Editor, CMA P. Udaya Shanker and CMA B. M. Gupta. The publication named as “MSME & Start-up Bulletin” was released on 14th August, 2022 during the Symposium on Cost Optimisation and Returns Maximisation throughout the Agricultural Value Chains organized by the Task Force on Agri Cost Management in association with Nagpur Chapter of Cost Accountants and Vasant Naik State Agriculture Extension Management Training Institute (Vanamati), Nagpur. CMA Chittaranjan Chattopadhyay, Chairman, Task Force on MSME & Start- Ups shared with the members, students, MSME entrepreneurs, government officials and other stakeholders catering to the needs of MSMEs and Start-ups the e-version of the bulletin can be accessed by visiting the Institute website: https://icmai.in/upload/MSME_Start_Up_Bulletin/AUGUST_2022/mobile/index.html

TAX RESEARCH DEPARTMENT

The Tax Research Department conducted two webinars on Maintenance of Books of Accounts by Specified and Notified Persons - Section 44AA Read with Rule 6F and Audit under Section 44AB on 12th September and on Reconciliation between 26AS and GST Record on 19th September.

The Department has also submitted three important representations: (i) Suggestions on the revised format of GSTR 3B submitted to CBIC (ii) Suggestions on the New FTP Policy submitted to the Additional Secretary and DGFT and (iii) Request to include Cost Accountants as Technical Member of GST Appellate Tribunal to the Convenor, Group of Ministers on Goods and Services Tax Appellate Tribunal (GSTAT).

The classes for the following Taxation courses commenced on 24th and 25th September, 2022.

1. Certificate Course in GST (CCGST)
2. Advanced Certificate Course in GST (ACCGST)
3. Advanced Course on GST Audit and Assessment Procedure (ACGAA)
4. Certificate Course in TDS (CCTDS)
5. Certificate Course in Filing of Returns (CCFOF)
6. Advanced Course on Income Tax Assessment and Appeal (ACIAA)
7. Certificate Course on International Trade (CCIT)

“GST Course for Colleges and Universities” started for the students of colleges of Jammu and Kashmir on 23rd September 2022. This is the second batch of students availing of the course at Jammu and Kashmir.

The TRD has released the 119th and 120th edition of the Tax Bulletin and the weekly quiz is also being conducted on the each Friday from 5 pm onwards.

ICMAI REGISTERED VALUERS ORGANISATION (RVO)

I am pleased to inform that ICMAI RVO has successfully organized “50 Hrs training programs” of 26th Online Batch Securities or Financial Assets, 19th Online Mandatory COP Program, and “Professional Development Programs” of Enhancing Valuation Competence, Master Class on Valuation, E-Charcha

Valuation: Perspectives and Prospects, Post Graduate Certificate Program in Valuation, Experiential Learning Program & Learning from Registered Valuer Peers, Crash Course Preparation for Valuation Examination and Learning Program in Valuation during the month of September 2022. For various publications and monthly e- Journal of ICMAI RVO, please visit: <https://www.rvoicmai.in/publication/>

I wish prosperity and happiness to members, students and their families on the occasion of Dussehra, Maharishi Valmiki Jayanti, Id-e-Milad, and Diwali and pray for the success in all of their endeavours.

Stay safe and healthy!

With warm regards,



CMA P. Raju Iyer

October 4, 2022



FROM THE DESK OF CHAIRMAN

Committee on Information Technology
The Institute of Cost Accountants of India

CMA Ashwin G Dalwadi

A true move towards full-fledged Digital Education and 'Make in India'

Greetings from the Desk of Chairman – Information Technology Committee of the Institute!

I feel happy and privileged to inform about an important MOU signed between the Institute and Jio Platforms Limited.

The MOU was signed by CMA P. Raju Iyer, President of the Institute and Mr. Saurabh Sancheti, Chief Financial Officer of Jio Platforms Limited. This MOU is aimed to contribute towards Institute's objective to promote, regulate and develop the profession of Cost and Management Accountancy in more effective way through digital technology in reaching to its stakeholders – Students, Members and Society at large.

The MOU signing ceremony was held on 29th September, 2022 at CMA Bhawan, New Delhi in august presence of CMA (Gp Capt) Rajendra Kumar Joshi (Retd.), Senior Vice President (Strategy & Planning), Jio Platforms Limited, Shri Balasubramaniam Iyer, Vice President, Telecom Products, Jio Platforms Limited, Shri Manish Kumar, Vice President, Business Planning & Policy, Jio Infocomm Ltd and Shri Ankit Garg, Vice President Sales, Jio Infocomm Ltd.

I had the pleasure of attending the MOU signing ceremony along with CMA P Raju Iyer, President, CMA Vijender Sharma, Vice President of the Institute, CMA Chittaranjan Chattopadhyay, Council member, CMA (Dr.) K Ch A V S N Murthy, Council member and CMA Kaushik Banerjee, Secretary of the Institute.

The Institute feels proud to be a first professional accountancy body of India to move towards a new era of Digital Education in a true sense with help of Jio Platforms. In addition to this, it has taken a lead by moving towards

'Make in India' initiative of the Government of India.

Jio Platforms Ltd has offered a bundle of following services under the brand of the Institute:

⊙ **ICAI-CMA TV Channel - Dedicated Content Broadcast for public at large and through special application with subscriber encryption facilities for Student and Members.** This TV will have series of special channel under Institute brand name – to telecast the live and recorded contents of education, innovation, skill development programs, etc.

⊙ **ICAI – CMA Chat – Real-Time Communication Channel**

Chat channel as digital noticeboard for members and students for real time updates.

⊙ **ICAI- CMA Meet/Conference - Virtual Meetings and Classroom**

This is a platform for two way interactive conversations – be it for Video Conferencing, Seminars, Classroom or any Cultural / Community events between multiple centers and members and students.

Furthermore, the Jio Platforms Ltd will also offer the following additional services / products to the Institute in a due course as part of the MOU.

- ⊙ Audio Channel
- ⊙ Publication (News / Magazine)
- ⊙ Cloud Storage (Cloud)
- ⊙ Jio Money

I take this opportunity to invite your suggestions for making this platform more effective and useful for our students, members and other stakeholders. You can email your valuable suggestions to chairman.it@icmai.in.

With Thanks & Warm Regards,

CMA Ashwin G Dalwadi

September 29, 2022



From Left to Right: CMA Chittaranjan Chattopadhyay, Council Member, ICAI, CMA Vijender Sharma, Vice President, ICAI, CMA (Gp Capt) Rajendra Kumar Joshi (Retd.), Senior Vice President (Strategy & Planning), Jio Platforms Limited, Shri Balasubramaniam Iyer, Vice President, Telecom Products, Jio Platforms Limited, CMA P Raju Iyer, President, ICAI, CMA Ashwin G. Dalwadi, Chairman, IT Committee, ICAI and CMA Kaushik Banerjee, Secretary, ICAI

CMA Syllabus 2022

CMA Course Structure

FOUNDATION COURSE

[TOTAL MARKS: 400]

- PAPER 1: FUNDAMENTALS OF BUSINESS LAWS AND BUSINESS COMMUNICATION (FBLC)**
PAPER 2: FUNDAMENTALS OF FINANCIAL AND COST ACCOUNTING (FFCA)
PAPER 3: FUNDAMENTALS OF BUSINESS MATHEMATICS AND STATISTICS (FBMS)
PAPER 4: FUNDAMENTALS OF BUSINESS ECONOMICS AND MANAGEMENT (FBEM)

INTERMEDIATE COURSE

[TOTAL MARKS: 800]

GROUP-I

- PAPER 5: BUSINESS LAWS AND ETHICS (BLE)**
PAPER 6: FINANCIAL ACCOUNTING (FA)
PAPER 7: DIRECT AND INDIRECT TAXATION (DITX)
PAPER 8: COST ACCOUNTING (CA)

GROUP-II

- PAPER 9: OPERATIONS MANAGEMENT AND STRATEGIC MANAGEMENT (OMSM)**
PAPER 10: CORPORATE ACCOUNTING AND AUDITING (CAA)
PAPER 11: FINANCIAL MANAGEMENT AND BUSINESS DATA ANALYTICS (FMDA)
PAPER 12: MANAGEMENT ACCOUNTING (MA)

FINAL COURSE

[TOTAL MARKS: 800]

GROUP-III

- PAPER 13: CORPORATE AND ECONOMIC LAWS (CEL)**
PAPER 14: STRATEGIC FINANCIAL MANAGEMENT (SFM)
PAPER 15: DIRECT TAX LAWS AND INTERNATIONAL TAXATION (DIT)
PAPER 16: STRATEGIC COST MANAGEMENT (SCM)

GROUP-IV

- PAPER 17: COST AND MANAGEMENT AUDIT (CMAD)**
PAPER 18: CORPORATE FINANCIAL REPORTING (CFR)
PAPER 19: INDIRECT TAX LAWS AND PRACTICE (ITLP)

ELECTIVES

- PAPER 20A: STRATEGIC PERFORMANCE MANAGEMENT AND BUSINESS VALUATION (SPMBV)**
PAPER 20B: RISK MANAGEMENT IN BANKING AND INSURANCE (RMBI)
PAPER 20C: ENTREPRENEURSHIP AND START UP (ENTS)

Note: Students will be required to select any one of three Elective Papers (20A/20B/20C) at the time of enrolment for the Final Course

- ⊙ CMA Syllabus - 2022 shall be effective from June 2023 term of examinations and onwards
- ⊙ Students taking enrollments in the Final Course have to give one time option about choice of "Elective Paper"
- ⊙ Syllabus 2016 shall be continued till December 2023 Exam term
- ⊙ Old students seeking conversion into Syllabus 2022 shall be given one time option to be exercised at least 6 months prior to the examination for necessary verification and approval
- ⊙ Once their request for conversion is accepted, old students have to purchase necessary Study Materials under Syllabus 2022 at prescribed prices



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& Sustainability

November 09 - 12, 2022
London (UK)

Theme:

**Building an Effective Board that Works &
TOP GLOBAL TRENDS**



also Presentation of
**Golden Peacock
Awards**

Global Business Meet
at House of Lords - UK Parliament

G A L A X Y O F S P E A K E R S



Dr. Tayeb Kamali
Director General - Education
and Training Development
Ministry of Interior
Govt. of UAE



Helen Brand OBE
Chief Executive
ACCA - Association of
Chartered Certified
Accountants, UK



Martin Wolf CBE
Chief Economics
Commentator
The Financial Times, UK



Prof. Soumitra Dutta
Dean
Saïd Business School
University of Oxford, UK



Suhel Seth
Founder &
Managing Director
Counselage, India



CMA P. Raju Iyer
President
The Institute of Cost
Accountants of India

CONFERENCE HIGHLIGHTS

- Welcome Luncheon and Special High-Level Global Business Meet at House of Lords (UK Parliament)
- Meet & Greet with Winners of Golden Peacock Awards on 'Corporate Governance' & 'Sustainability' (National & Global) @ a special presentation ceremony and Banquet Dinner
- Three days of information packed, interactive sessions
- Top technical speakers loaded with professional experience from across industries
- Learn Best Practices from top companies- Business case study presentations on 'Corporate Governance' & 'Sustainability'
- Network with leaders and experts from business, government and policy makers

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Fireside Chat with CMA Basant Maheswari

CHIEF GUEST



CMA Basant Maheswari,
Portfolio Manager

MODERATOR



CMA (Dr.) Sunder Ram Korivi,
Academic Head,
HSNC University & Adjunct Faculty
of IICA, MCA

Venue:
At Hotel Hindustan International
Date & Time:
FRIDAY 28TH OCTOBER 2022
6P.M. to 8P.M.

FROM THE INSTITUTE



CMA P Raju Iyer,
President, ICAI



CMA Vijender Sharma,
Vice President, ICAI



CMA Biswarup Basu
Immediate Past President



CMA Chittaranjan Chattopadhyay,
Chairman, BFSI Board, ICAI

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Glimpses of the MOU signing ceremony between the Institute and Kalinga Institute of Social Sciences (Deemed to be University) held on 17.09.2022 at Bhubaneswar, Odisha.



Glimpses of the All Odisha CMA Practitioners Meet organised by the Bhubaneswar Chapter of the Institute on the theme 'From Better to the Best Journey of Practicing CMAs' on 18.09.2022 at Bhubaneswar, Odisha.



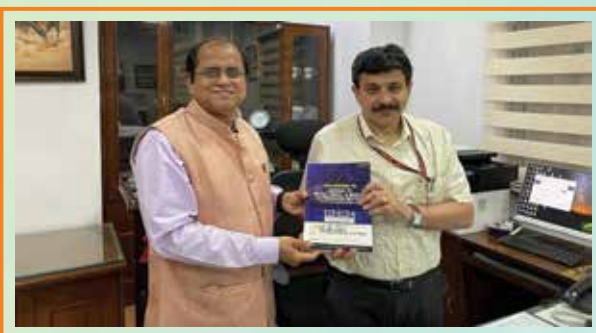
Seminar on 'Renewable Energy - The Next Big Revolution!' organized by Members in Industry & Placement Committee on 10th September 2022 at J.N. Bose Auditorium, Kolkata HQ



Glimpses of the All Odisha CMA Practitioners Meet organised by the Bhubaneswar Chapter of the Institute on the theme 'From Better to the Best Journey of Practicing CMAs' on 18.09.2022 at Bhubaneswar, Odisha



CMA (Dr.) K Ch A V S N Murthy, Council Member along with CMA K. Someswara Babu, Chairman, Hyderabad Chapter of the Institute had a meeting with Shri Srinivas Rao Mahankali, CEO of Telangana Hub, Hyderabad.



(R to L) Shri Rajib Kumar Sen, Senior Advisor MSME, NITI Ayog, GoI is being greeted at his Office by CMA Chittaranjan Chattopadhyay, Chairman, BFSIB and Task Force on MSME & Start- Ups, ICAI



(L to R) Shri J. Venkatramu, MD & CEO of India Post Payments Bank Limited is felicitated by CMA Chittaranjan Chattopadhyay, Chairman, BFSIB on 16th September, 2022.

OFFICE BEARERS OF WIRC OF ICAI FOR THE YEAR 2022 - 2023

- CMA Shriram Narayan Mahankaliwar - Chairman
- CMA Vinayak Balkrishna Kulkarni - Vice Chairman
- CMA Ashishkumar Sureshchandra Bhavsar - Secretary
- CMA Chaitanya Laxmanrao Mohrir - Treasurer

OFFICE BEARERS OF EIRC OF ICAI FOR THE YEAR 2022 - 2023

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- CMA Pallab Bhattacharya - Vice Chairman
- CMA Abhishek Kumar Singh - Secretary
- CMA Uttam Kumar Nayak - Treasurer

OFFICE BEARERS OF SIRC OF ICAI FOR THE YEAR 2022 - 2023

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- CMA R. Vishwanath Bhat - Vice Chairman
- CMA Vijay Kiran Agastya - Secretary
- CMA Rajesh Sai Iyer - Treasurer

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- CMA Sandeep Goel - Treasurer

SUPPLY CHAIN RISK MANAGEMENT RESILIENCE & REBALANCING



CMA Aakaash Gollapudi
Manager
Global Audit & Risk Management
Flex India (P) Ltd.
Chennai
gollapudi.aakaash@gmail.com

Abstract

Supply chain is a network and infrastructure among organizations that is required to produce and distribute a product or service. As organizations extend their operational and commercial footprints, managers are focusing on improving their ability to avoid supply chain risks and maintain a competitive advantage.

Supply chain disruptions is an unplanned and unanticipated event arising due to external and internal factors and these disruptions are increasingly costly. Organizations are experiencing increased supplier risk events due to extreme weather events, unplanned communication outages, supplier financial challenges, pandemic-induced lockdowns and cyberattacks, for example. The growth in cross-border flow of goods and services and in the number of partners in an organization's global supply chain ecosystem has also increased the complexity, making many organizations to focus on creating efficiencies and reducing costs. However, moving to leaner supply chains has made organizations fragile and more susceptible to the growing number of disruptions. As a result, organizations are restructuring or rebalancing supply chains to mitigate the risks of disruptions and to build resilience while increasing visibility and creating the need to balance new operating challenges. Failing to respond to supply chain risks by building adequate contingency plans puts organizations at a greater risk of potential failures and enhanced costs during disasters and other business interruptions.

TOUCH POINTS OF A SUPPLY CHAIN DISRUPTION

All the functional areas of an end-to-end supply chain — from raw materials procurement to product or service delivery (plan, source, make, deliver, customer service) — are potential touchpoints where disruptions can occur. Thus, ineffective management of a problem in any one link in the

chain can disrupt the entire supply chain, impacting both the operations of the supply chain and the production process these supply chains support.

IMPACT OF A SUPPLY CHAIN DISRUPTION

Financial impact of any of these disruptions, either alone or cumulatively, can be substantial.

When the business managers are unsure of their role in managing

supply chain disruption risk, these risks extend beyond financial impact, becoming more prevalent and expensive. Progressive management works closely with supply chain leaders to gain visibility into when and how resources move across the entire system. Risk managers act as advisors for supply chain managers, directing them to take an efficient approach to improve identification of supply risk sources and develop predictive risk management solutions

to improve risk readiness for potential breakdowns in supply chains.

IMPORTANT TERMS

Third-Party Risk: Third-party risk is any risk arising due to the use of external parties to assist or wholly perform activities necessary to the operations and strategy execution of the business. Third-party risk is a component of supply chain risk.

Time to Recovery (TTR): How long it will take to recover from a disruption.

Time to Survive (TTS): How long the company can continue to operate after disruption.

Order Cycle Time: Time from the receipt of an order from a customer to the receipt of the product by the customer.

Bullwhip Effect: Also known as “Whiplash Effect,” it is an observed phenomenon in forecast-driven distribution channels. The oscillating demand magnification upstream in a supply chain is reminiscent of a cracking whip.

KEY DRIVERS OF SUPPLY CHAIN RISK

Businesses need to understand the factors that can drive supply chain disruption. Some of the causes for supply chain disruption are:

Inefficient Third-party Supplier Management: The organization audits and reviews its third-party supplier on an ad hoc basis instead of following a regular cadence.

Suboptimal Back-up Continuity Management (BCM) and Disaster Recovery Plan: — The organization is underprepared to recover from situations such as equipment breakdown, economic trade regulations, labor fluctuations, Governmental and climate factors and the threat of terrorism.

Inadequate Operational Assessment and Planning: Current systems or processes are not equipped with the latest data to accurately

Heads of Managements should work with supply chain leaders to recognize supply chain failure points

predict customer demand.

Failure of Logistical Operations: Logistic challenges, such as warehouse adequacy, cargo damage and theft are identified at a later date, making it hard to control or address them.

The consequences of supply chain disruption incidents are more expansive than immediately apparent for an organization, as they impact the organization at several levels.

IMPLICATIONS OF SUPPLY CHAIN DISRUPTION INCIDENT

More than one in 10 organizations suffered losses of more than \$1 million due to supply chain disruptions during 2018-19 (selected this year to analyze trends of Pre-COVID levels of normal business scenarios), as per the analysis from an international survey result. However, the implications of supply chain disruption are not just financial but also strategic, operational and reputational.

Reputational: Hefty fines and burdensome penalties for vendors not complying with regulations, such as ethical requirements, loss or mismanagement of confidential data all can result in reputation loss for an organization.

Operational: Organizations might face operational losses due to loss of productivity, increased cost of working and missed opportunities due to unplanned shutdowns.

Financial: Organizations might face financial losses due to product replacement cost and/or increased costs due to missed milestones in product delivery.

Strategic: The disclosure or theft of intellectual property can delay a strategic initiative or undermine competitive advantage. Further, these risks can also cause reduction of market share due to delay in product delivery to customers and low switching costs.

Managements are in a unique position to improve supply chain disruption risk readiness for the organization by facilitating coordination among procurement, ground operational managers and other supply chain stakeholders. Heads of Managements should work with supply chain leaders to recognize supply chain failure points and their possible consequences. This can help heads of management identify a problem before it escalates.

RESILIENT RESPONSE TO SUPPLY CHAIN DISRUPTION

Consultants and Managements (C&Ms) should help the organization to evaluate the risks of rapidly shifting supply chain strategies and the organization’s ability to absorb and recover from a growing number of supply chain disruptions.

To review supply chain risks and help improve risk preparedness, C&Ms should verify whether their organization’s risk response plans adequately address the risk’s true root causes and consequences (see Figure 1). Further, once the root causes and consequences are recorded, C&Ms should review the control measures in place to minimize the consequences if the risk event were to occur. Additionally, C&Ms should provide recommendations to develop a robust and well-structured risk mitigation plan.

One way to guide supply chain leaders is by leveraging bow-tie diagrams. These diagrams illustrate the connections between risk events, their root causes and consequences by:

- Visualizing a summary of plausible consequences that

could exist around a certain hazard

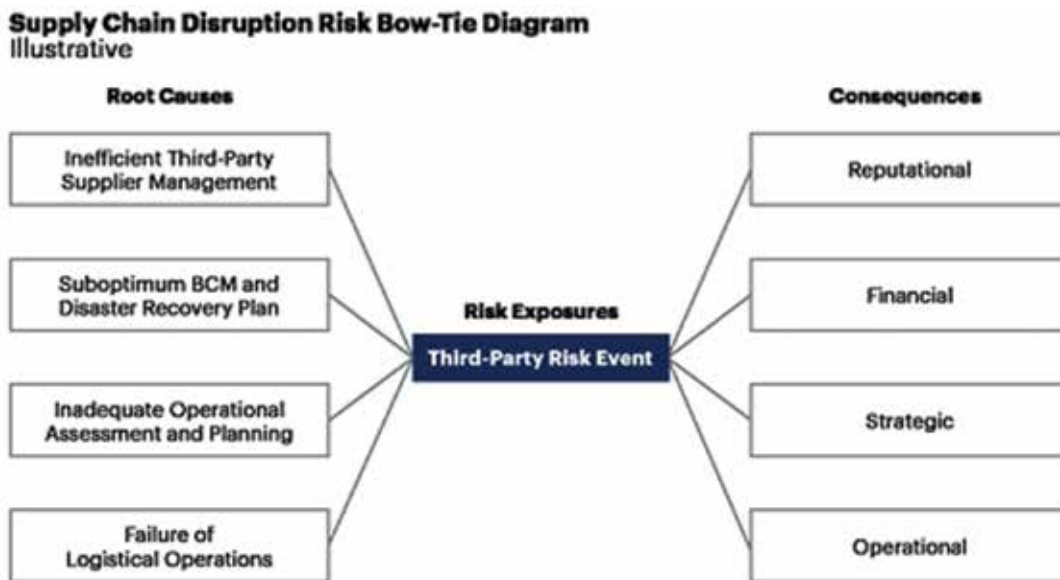
- ⊙ Displaying what measures an organization can take to control those consequences

This analytical framework will help management verify their

risk-response plans adequately address the risk exposure's true root causes and consequences. Further, once root causes and consequences are recorded, management should work with supply chain leaders to put control measures in place to minimize the consequences if the risk event

occurs. This will help management to increase the overall risk readiness for the organization against supply chain disruption risks. Management can review the sample bow-tie diagram shown in Figure 1 to understand how to use bow-tie diagrams for their organizations.

FIGURE 1



SUPPLY CHAIN RISK MANAGEMENT & RE-BALANCING

Risk and assurance functions use key risk indicators (KRIs) to track early signals of increasing risk exposure in various areas of the enterprise. While this is crucial to risk management, it can often be challenging.

KRI Identification Procedure



SOME COMMON SUPPLY CHAIN REVIEW ACTIVITIES FOR EFFECTIVE & EFFICIENT RE-BALANCING

- ⊙ **Review Supply Chain Contingency Plans:** Assess supplier contingency plans to ensure that the organization can quickly pivot to different sources for critical supplies in the event of external supply shocks. For supplies that have a sole source, ensure that contingency plans are in place and up to date. Assess clauses for unforeseeable circumstances and exclusions in critical supplier agreements.
- ⊙ **Assess Organizational Coordination on Supply Chain Processes:** Review measures the organization uses to enable communication across business units regarding the supply chain. Review assurance responsibilities of supply chain staff and other assurance providers to locate gaps in assurance or duplication of activities.
- ⊙ **Review Supplier Crisis Communication Protocols:** Assess how the supplier will communicate material

changes that may affect its risk profile, such as changes in ownership, structure or operations. Determine whether the organization has business continuity, teleworking or disaster recovery policies that would be useful to share with suppliers.

- ⊙ **Review Processes to Monitor Country-of-Origin Regulations:** Assess whether, and how, the organization determines the country of origin of materials used by suppliers (in particular, whether suppliers are complying with all country-of-origin requirements). Determine whether the business tracks trade or

geopolitical developments as they relate to supplier materials.

- ⊙ **Review the Supplier Renewal Process:** Review the supplier renewal process to determine how the organization decides to renew contracts with suppliers. Assess whether the organization uses standardized criteria or documents, such as supplier assessments, when evaluating whether to revise or renew supplier contracts.

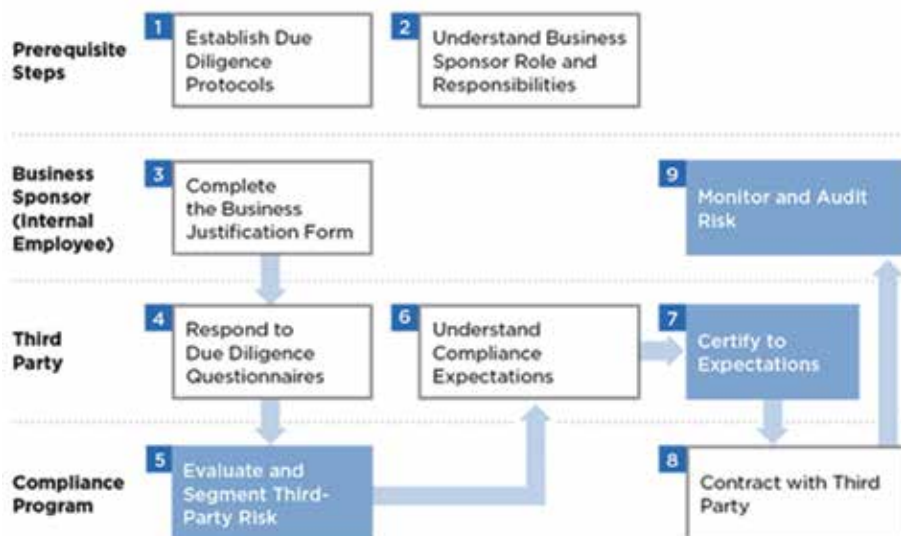
AN ILLUSTRATIVE EXAMPLE OF A SUPPLY CHAIN RISK MANAGEMENT PROCESS MAP & ASSESSMENT STEPS: THIRD-PARTY RISKS

Having seen that the most common

supply chain risk arises from the third parties that interact with the business and support the supply chain of any business, given below is a risk management process map for an illustrative reference.

Building the ethics and standards (e.g., prohibiting recruitment fees, “Do Not Source” lists for serious violators) into the third-party risk management process ensures that supply chain risks are addressed proactively instead of reactively. Prior to contracting with third parties, the managements should conduct thorough due diligence and certify to expectations and then regularly monitor and audit the suppliers (Figure 2).

Figure 2: Third-Party Risk Management Process Map



CONCLUSION

Supply chain disruption incidents can have financial, operational, reputational and strategic consequences for an organization. While the number, prevalence and cost of these incidents is rising, it is imperative for organizations to remain prepared to handle the growing risk.

Managements must work jointly with supply chain leaders to recognize supply chain failure points and their

possible consequences. This would help in identifying supply risk sources and develop predictive enterprise risk management to improve risk readiness for potential breakdowns in supply chains. MA

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LESSONS FROM PANDEMIC RE-IMAGINING SUPPLY CHAIN

Abstract

During the initial spread of the Covid pandemic in India, I was posted in a Corona hospital and faced problems of arrangement and supply of corona essentials to the hospital so that precious human lives can be saved. Based on my experience I have suggested a concept of reimagining of supply chain of essentials in the country during any such crisis in future. My concept is at very naive stage at this point of time but may be developed further.



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I was posted as Head of Finance in one of the major corona hospitals during the corona pandemic in our country during the month of March'2020. The entry of corona virus was followed by strict nation wide lockdown from 24th March2020 and during this period only, my hospital was declared as Corona hospital by the State Government.

That was a period of fear, confusion, uncertainty and negativity. Nobody, neither Doctors nor the Government, was having any clue of the pandemic, its treatment, its severity, its impact and number of probable deaths. All modes of transportation, markets, offices, factories, hospitals (other than corona ones), were fully closed during the lockdown. People were afraid of each other and were forced to keep themselves in confinement of four walls of their houses and nobody could meet anyone else. Contactless delivery of edible and essential items from few authorised suppliers was the only ray of hope. At that time many experts were estimating the probable number of deaths in crores only in our country!

During that period the biggest challenges for the Government were

saving the lives and ensuring supply of essentials to the common man.

When our hospital was declared Corona Hospital we at the Hospital were having the challenge of arranging, procuring and transporting safety-guards for Doctors and para medicos so that they can start taking care of corona patients. That was a sudden challenge of managing the supply chain of essential medical items also to save precious lives.

The first challenge faced by us at the Corona Hospital was of PPE kits as there was no PPE kit available in the market. Few manufacturers at scattered places of India had started making PPE kits during the last week of March 2020 but those were very costly and not easily available. Moreover, we were not having enough time to follow all the rules of the procurement of the company or the Government. It may be mentioned here that PPE kit was mandatory for every medico at the time of interaction with corona patient and it was a single use kit.

Apart from PPE kits we were also facing the shortage of other required corona items. As a finance member of the procurement committee, I

was compelled to procure corona essentials from the available sources at exaggerated prices and that too without following the mandatory lengthy procurement modalities to avoid delay and consequent deaths. Even, GeM (Government e-marketing) was not having all required items in its site.

Another big challenge, apart from procurement was of transportation of these items from different parts of the country to hospital as transporters were not available at ease due to nationwide strict lockdown. It was becoming very difficult, almost impossible, to procure and transport corona essentials from limited vendors from far and distant places of the country for the hospital. Although the Government was ready to provide all the facilities, but fear of pandemic was keeping the manpower engaged in transportation sector away from their duties. Apart from the fear of getting infected from corona, the fear of quarantine at isolated places for a good number of days in case of being declared positive from corona, was another reason that very a smaller number of employees were reporting for duty. Many drivers and staff were not even ready to drive their vehicles to far away destinations as all road

side eateries and repairing shops were closed due to lockdown.

PPE kits, sanitisers, hand gloves, face shields, medicines, N 95 masks, vaporizer machines, corona testing facilities, Remdisivor injections, oximeters, azithromycin, dettol etc were not easily available. If these were available at all, that were very costly and as mentioned earlier transportation of these items from manufacturing / selling sites was another tedious job.

Very soon we, at the hospital, also started facing shortage of supply of man power like nurses & ward boys to serve in corona wards. Even enough hotels/ lodges/ guest houses were not available to keep medicos in isolation during quarantine after the duty, as per prevailing norms at that time.

Scarcity of oxygen and its cylinders, especially during the second wave of corona, is well known and even highest authority of our country like Prime Minister was working and monitoring oxygen supply day and night to make it available to patients across the country. Shortage of beds in hospitals and enhancing their supply was also a tough task. Many hotels, railway bogies and sports stadiums were converted into make-shift hospitals. It is also a fact that many patients lost their lives due to non-availability hospital beds with oxygen on time.

The country heaved a slight sigh of relief when it ultimately discovered the corona vaccine. But this discovery again came with the challenging task of obtaining and distributing corona vaccines with injection syringes across the country for vaccinating corona warriors and other citizens; another tedious work under supply chain.

But at last we succeeded and could face the pandemic with comparatively low death rates and vaccinating each one of us.

The intention of starting this article with my above experience is just to share with the readers the problems of the management of supply of everything, from food-grains to

During any crisis like the covid pandemic keeping oneself physically and mentally healthy and fit is the topmost priority

medicines to man- power, during and after pandemic and issue of re-imagining supply after acquiring experiences during the pandemic.

Although our country performed efficiently in managing supply of petroleum products, edible items, medicines, corona items, oxygen cylinders and other house hold items during pandemic despite sever lockdown and 'not-so-good reputation' in past of perfect supply chain management, the time has come to learn lessons from the pandemic and re-imagine the supply chain management to bring more efficiency in the future.

Based on my experience and further studies of supply chain management, not only of our country but of all developed countries, some suggestions are put forth as follows:

- ⊙ Any such pandemic or emergency can strike again any time in future. Many countries, like Russia/Ukraine/China/Taiwan are on political war path in recent months and this may also lead to such crisis of supplies any time in the near future. Our Prime Minister has already raised the issue of shortage of food grains and sources of energy across the world with world leaders in recent summits. To face such situation in our country, Government may think of creating a separate department, like NDRF, which may be named as "SAHAYTA". As we all know, NDRF (National Disaster Response Forum) was created in 2005 to lay down

policies, plans and execution during disaster management in the country. Similarly this department, SAHAYTA, may be created which must be headed by an efficient and competent person like "Metro-man" Mr E.Sreedharan having branches in each State capital of the country to begin with. Later, more branches of "SAHAYTA" may be operationalised in large districts / towns also, with the ultimate objective of having branches in every district and town. Retired army and paramilitary officers and jawans, like Agniveers, may be engaged permanently and / or temporarily by this department to ensure efficient on-time supply of food and non-food essentials during crisis.

- ⊙ A dedicated team of young and physically fit professionals, like doctors, college students, public or private sector employees, professionals like CMAs may also be identified, trained and enrolled at district level by "SAHAYTA" to be employed during crisis. Lessons and expertise may also be drawn from international NGOs like Rotary or Red Cross which have provided immediate reliefs through their volunteers during the pandemic in different parts of the world, although on isolation basis.
- ⊙ Today our country has around 250 Medical colleges with around one lakh seats annually. Government is further thinking to have medical colleges in each of the 773 districts of the country in the future which may be linked to "SAHAYTA" so that immediate medical response may be provided to citizens during crisis. As per information, the Government is also going to increase the number of AIIMS to 25 in the country which is a very positive approach. It will

increase supply of number of doctors and para-medicos in the country many folds and they will be the back bone of “SAHAYTA”.

- ⊙ During any crisis like the covid pandemic keeping oneself physically and mentally healthy and fit is the topmost priority and therefore digital/online/ e-health services through village panchayats may be made available in all the villages (about seven lakhs in number) of the country through these medical colleges and AIIMS. The private sector may also play a vital role in this area. This sector can be encouraged to provide e-medical facilities in all villages and small towns under “Pradhan Mantri Ayushman Bharat” or similar nationwide scheme with reasonable financial returns.
- ⊙ Supply of food, medicines and other essentials is required to be ensured on time to every part of the country during such pandemic, lock down, war or any other natural calamity. For this purpose, specially designed godowns may be erected in different parts of the country to store all such essentials for a fixed period and may be replenished from time to time to avoid expiry and wastage of stored items. Its replenishment may be ensured with the help of nationwide players of supply chain managers like Reliance or FCI (Fertilizer Corporation of India) etc. The essentials items in pre-determined quantity may be kept in stores of such national players in each of the district / town for a fixed period and then it may be transferred to small vendors for fresh replenishment in godowns. If this modality of opening godowns with timely replenishment is linked with some PLI like scheme, then

more private players may also join it. Although Government uses the godowns of FCI during natural calamities, the country doesn't have any such organised facility for medicines and other essentials at present. It will save from dependency on stray manufacturers and suppliers who created artificial shortage during pandemic and later supplied corona essentials of unproven quality at very high prices and that too at unfavourable conditions.

- ⊙ The mode of transportation must be modernised further with high speed to ensure ‘on time supply’. Recently when thermal power stations were suffering from shortage of coal and power crisis in many States was on sight, the country faced the problem of transportation of coal from production sites of Jharkhand, Odisha, Chhattisgarh and West Bengal to power plants across the country. Railways had to cancel more than 1100 pairs of passenger trains during a time period to ensure smooth passage of rakes with coal to power houses. To avoid such transportation crises, creation of dedicated corridors across the country is the only solution. Dedicated railways lines to transport goods is the need of the hour. Similar dedicated road corridors may also be created for road transports. For the example, Government of Jharkhand has erected ring road, circling the whole capital city Ranchi, which has ensured movement of trucks even in day time when no-entry is imposed in the city. It has not only increased the speed of transports but saved cities from traffic jams. Such ring roads in every town and dedicated lane in highways for truckers are the need of the hour.
- ⊙ All the above modalities will

need huge amount for capital and revenue expenditure. Government may think of charging “SAHAYTA” cess along with income tax and GST for this purpose. Facility of long term loans or tax free bonds to or by concerned business houses on liberal terms may be provided. Experts like CMAs may be engaged by the Government to estimate the cost and modality of arranging funds for this whole project.

- ⊙ Citizens of the country must also be sensitised to face such crisis in future. All professional courses may consider including as a subject “Supply chain management” in their curriculum. Indian Institute of Material Management conducts a diploma courses in various cities; clue may be taken from them to develop such topic or subject.
- ⊙ Checks must be developed to minimise fake propaganda against such type of projects. Recently we have seen that fake propaganda is organised in different parts by various interest groups against development-oriented projects like “Agni veers scheme” or Corona Vaccine. Government and qualified persons like CMAs should be alert and ready to counter such fake propaganda.

In this article I have outlined only a rough sketch of the concept of reimagining supply chain in future to ensure timely supply of essentials during any crisis. It may be explored and modified further by the concerned authorities. MA

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SUSTAINABLE AGRICULTURAL SUPPLY CHAINS FOR LEVERAGING SDGs

Abstract

Agricultural crop suffers from perishability constraints. Every region cannot produce all types of required crop and food grains. There is need for cold storage to overcome the issues of perishability and at the same time efficient supply chain is essential to ensure equitable distributions of crops and food grains across the region, State as well as in the country. There lies a huge scope of earning revenues by exporting excess crops, food grains to selected regions or even abroad. Food security has become one of the biggest challenges in the modern era. This can only be solved by formulating an integrated crop planning of land for the entire region coupled with dedicated cold storage and warehousing system. This research study attempts to devise a model for introducing mobile cold storage eco-system with the intervention of IoT ecosystem which is fundamentally backed by integrated crop planning of land.



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INTRODUCTION

Economic development of a nation is primarily rests on the advancement as well as the expansion of infrastructure, technology, manufacturing and services sectors. Developed nations have been, somehow reluctant on farming activities. Economic super powers always push the responsibility of agricultural practices in the courts of developing and third world countries like India, Indonesia, Bangladesh etc. But, the Sustainable Development

Goals (SDGs) essentially prioritize on 'Hunger (Goal-2)', 'Sustainable Consumption & Production (Goal-12)' and 'Poverty (Goal-1)' which are functions of farming excellence and effective supply chains. Various studies indicate that wastage of food and food grains has been going up to the tune of around 60-70 per cent of global production. A major chunk is contributed by inefficient and weak supply chain that includes massive deficiency in preservation and ineffective distribution of agriculture produces. The situation is fatal in India and Asia-pacific region. The

duality of economy is visible where farmers commit suicide as a result of large volume of productions and on the contrary, market surprisingly suffers from food inflation. The grey area of market controlled agro-economy is being squeezed by the black marketers and unfair trade practitioners. In this backdrop, it is emergent to understand the gravity of the issues and to devise sustainable supply chain solutions so as to curb the ill-managed and man-made economic catastrophe that is threatening the very existence of the mankind.

This research study attempts to develop an innovative model for establishing mobile cold storage as part of sustainable supply chain for agriculture produce with the intervention of IoT ecosystem.

RESEARCH METHODOLOGY

The study attempts to design an effective and sophisticated supply chain model based on various secondary information, panel data, and research outcomes relevant to the field of study. The growing popularity of 4IR has opened the spectrum of resources and use of artificial intelligence in various fields of studies. Serious attempts are made to find how to incorporate IoT ecosystem to design a dedicated mobile cold storage system which may effectively address the curse of food loss. A prototype model has been developed which is described in later part of this article.

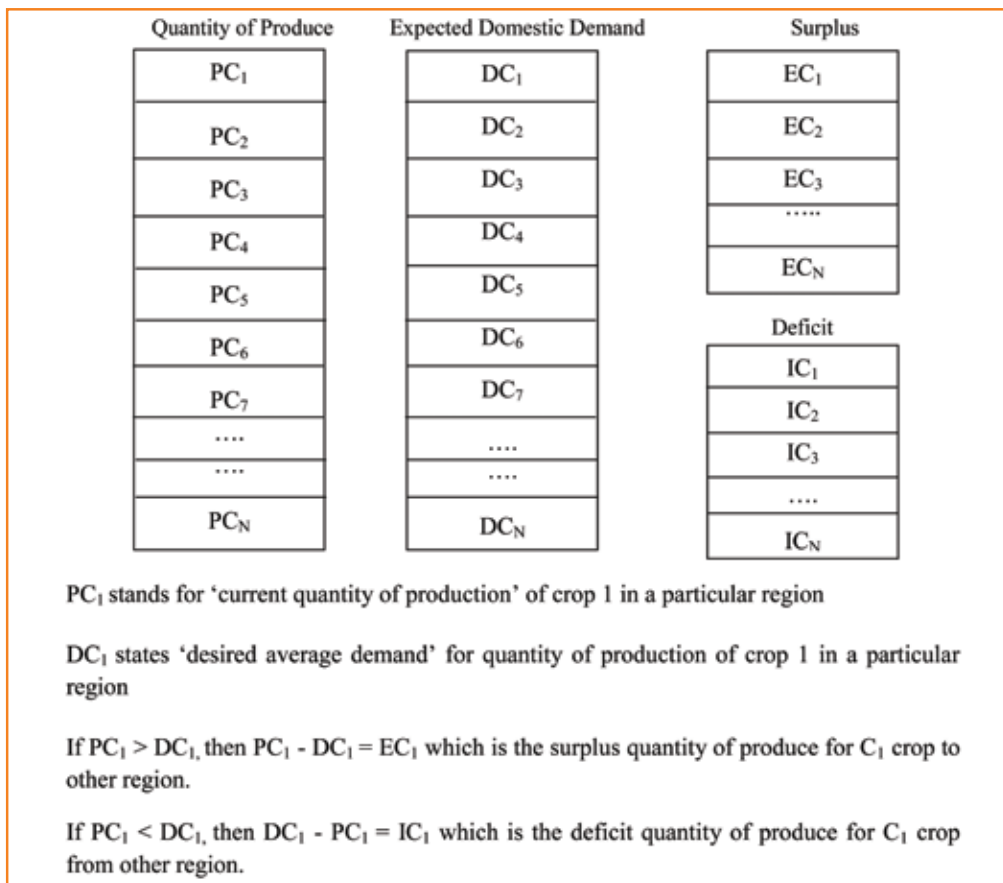
ANALYSIS

Before it is attempted to understand the dynamics of supply chain in agricultural produce, it is important to

stress upon the integrated crop planning mechanism. The agricultural crop is the outcome of various factors like fertility, weather condition, influx of both indigenous and modern technological intervention etc. Crops may be identified from multidimensional priorities. The crop wise demand for domestic consumption, export demand and import liability have to be identified both in terms of variety and volume. The State must design a comprehensive agricultural policy on three basic dimensions (i) to fulfill crop-wise domestic demand of the country in order to achieve food security and overcome the syndrome of hunger (SDG-2), thereby enhancing greater participation of man power particularly for the nations with high population density; (ii) to optimize the production and marketing of exportable high quality food produce to address the issues of global food security and hunger and earn foreign currency by the agrarian States so that the balance of trade can be optimized; (iii) to reduce the import burden for the less developed / developing agrarian economies. A block diagram of agricultural production, demand, export and import has been crafted below in Figure 1.

FIGURE 1

Block Diagram for Crop Productivity Mapping: Demand, Surplus & Deficit
(Region wise: District wise or Block wise)



Source: Developed by the Authors

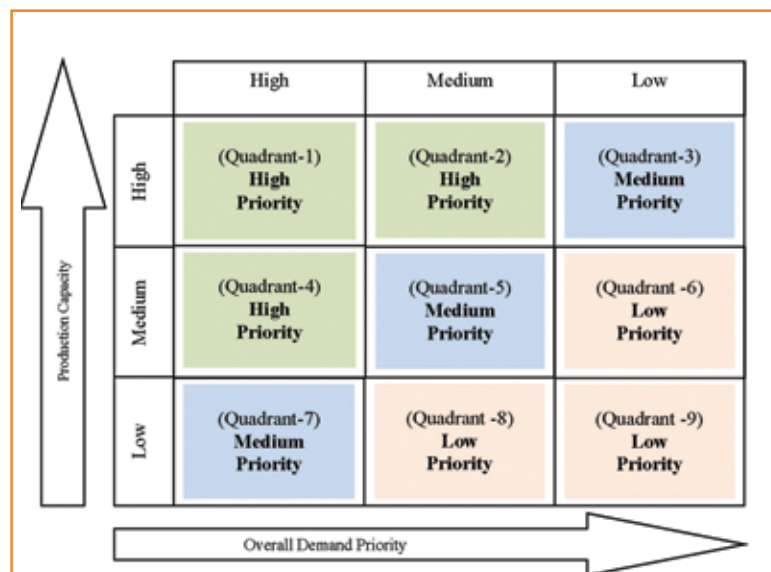
Similar crop productivity mapping may be generated for each region (District-wise or block wise). This mapping would enable the relevant policy makers and implementing agencies to take appropriate decisions either to utilize the surplus crop to nearby regions where it has high current demand and vice versa. It could be addressed in other ways like the specific-crop deficit region may be motivated for enhancing its production if other conditions are in favour. Otherwise the intra-District, inter-District, inter-State demand centric movement of crops may have to be ascertained. This would fulfill SDG 1 & 2 and food security across the regions. This model would also ensure need based movement of food grains that helps to minimize food inflation particularly fuel induce inflationary impact. In order to make each region self reliant, it is inevitable to manifest appropriate crop planning for every region. The purpose of crop planning is to ensure the region with sufficient quantity of required food grains and the excess would only be transferred to other regions where production is less compared to the requirement.

PRIORITY MATRIX FOR SUSTAINABLE CROP PLANNING

Based on the inputs retrieved from Figure 1, it is important to map the cultivable lands on two broad dimensions i.e. the X-axis denotes overall demand priority and the Y-axis represents production capacity of relevant crops in the particular region or large cultivable area. Both X and Y axes can be further subdivided into three in order of importance or gravity i.e. high, medium and low. Thus the Issues Priority Matrix has been demonstrated with nine possible quadrants as depicted in Figure 2.

- ⊙ High priority region (Quadrant 1, 2, 4) depicts that the ear marked cultivable land has the high potential production capacity of selected crops which are of high overall demand. That strongly suggests for optimizing such produces. On the contrary, if some crops are not prioritized by the local farmer resulting in high import by the country sacrificing its forex reserve, the State should concentrate for its higher production so that the less developed economy can save foreign currency. The high priority region shall be given paramount importance in the integrated agricultural crop planning policy of the State.
- ⊙ Medium priority region (Quadrant 3, 5, 7) produces a set of crops which are moderately important for domestic / export / import or in group. At the same time the region has the moderate capacity of production. The agricultural policy makers must emphasis with second order of priority for the earmarked region. The strategy of the planner should be to elevate the region to high production capacity and augment its market demand in all the three formats.
- ⊙ Low priority region (Quadrant 6, 8, 9) essentially describes the region which has low productivity of crop and surprisingly the crops are less important in all formats of markets. The policy planner may identify the regions with the set of crops so that it could fetch the support of improved marketing infrastructure. If demand for such crops could not be developed the integrated farming model may be introduced which includes fishery, piggery, goatery and community based village tourism [1].

FIGURE 2
Integrated Crop Planning, Priority Matrix



Source: Developed by the Authors

The Integrated Crop Planning Priority Matrix essentially identifies the cultivable lands in order of varying priorities with reference to the respective crop production capacity and its market demand. If the policy planners can take strategic decision for effective crop planning incorporating the notion of priority, the society and the country as a whole can be immensely benefitted to address the various SDGs (Goal 1, 2, 3, 8 and 12). Table 1 exhibits distribution of cold storage across the state and Union Territory (UT) of India.

TABLE- 1
State or UT wise Distribution of Cold Storage as on 31.08.2020

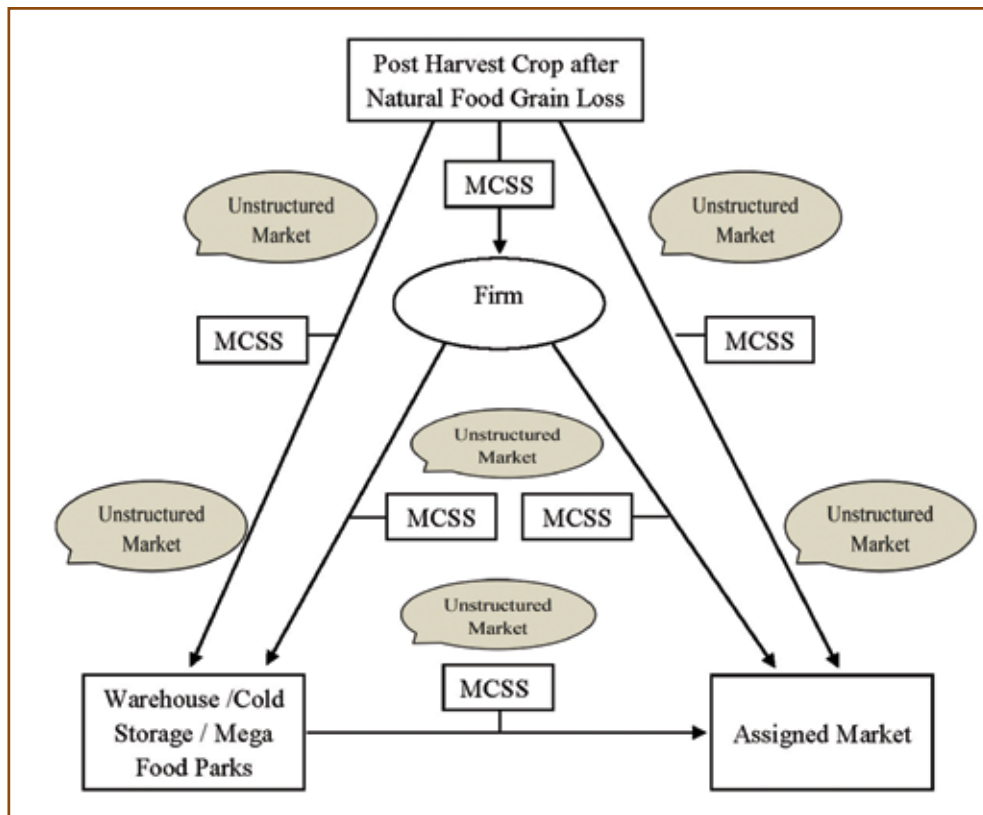
Sl. o.	Name of the State / UT	Area (Sq Km)	% Share of area	Density (per km ²)	Cold Storage	Capacity (MT)
1.	Andaman & Nicobar Islands (UT)	8249	0.25	46	3	810
2.	Andhra Pradesh & Telangana	275047	8.37	308	479	1978569
3.	Arunachal Pradesh	83743	2.55	17	2	6000
4.	Assam	78438	2.39	397	39	178096
5.	Bihar	94163	2.86	1102	311	1479122
6.	Chandigarh (UT)	114	0.0035	9252	7	12462
7.	Chhattisgarh	135192	4.11	189	99	487292
8.	Delhi	1483	0.045	11297	97	129857
9.	Goa	3702	0.11	394	29	7705
10.	Gujarat	196244	5.97	308	969	3822112
11.	Haryana	44212	1.34	573	359	819809
12.	Himachal Pradesh	55673	1.69	123	76	146769
13.	Jammu & Kashmir	222236	6.76	56	69	250169
14.	Jharkhand	79716	2.42	414	58	236680
15.	Karnataka	191791	5.83	319	223	676832
16.	Kerala	38852	1.18	859	199	81705
17.	Lakshadweep (UT)	30	0.0009	2013	1	15
18.	Madhya Pradesh	308252	9.38	236	302	1293574
19.	Maharashtra	307713	9.36	365	619	1009693
20.	Manipur	22327	0.68	128	2	4500
21.	Meghalaya	22429	0.68	132	4	8200
22.	Mizoram	21081	0.64	52	3	4001
23.	Nagaland	16579	0.50	119	3	7150
24.	Orissa	155707	4.74	269	179	572966
25.	Pondicherry (UT)	490	0.015	2598	3	85
26.	Punjab	50362	1.53	550	697	2315096
27.	Rajasthan	342239	10.41	201	180	611831
28.	Sikkim	7096	0.22	86	2	2100
29.	Tamil Nadu	130060	3.96	555	183	382683
30.	Tripura	10486	0.32	350	14	46354
31.	Uttar Pradesh	240928	7.33	828	2406	14714235
32.	Uttrakhand	53483	1.63	189	55	191314
33.	West Bengal	88752	2.70	1030	514	5947311
	Total	3287469			8186	37425097

Source: Retrieved from [2], [3]

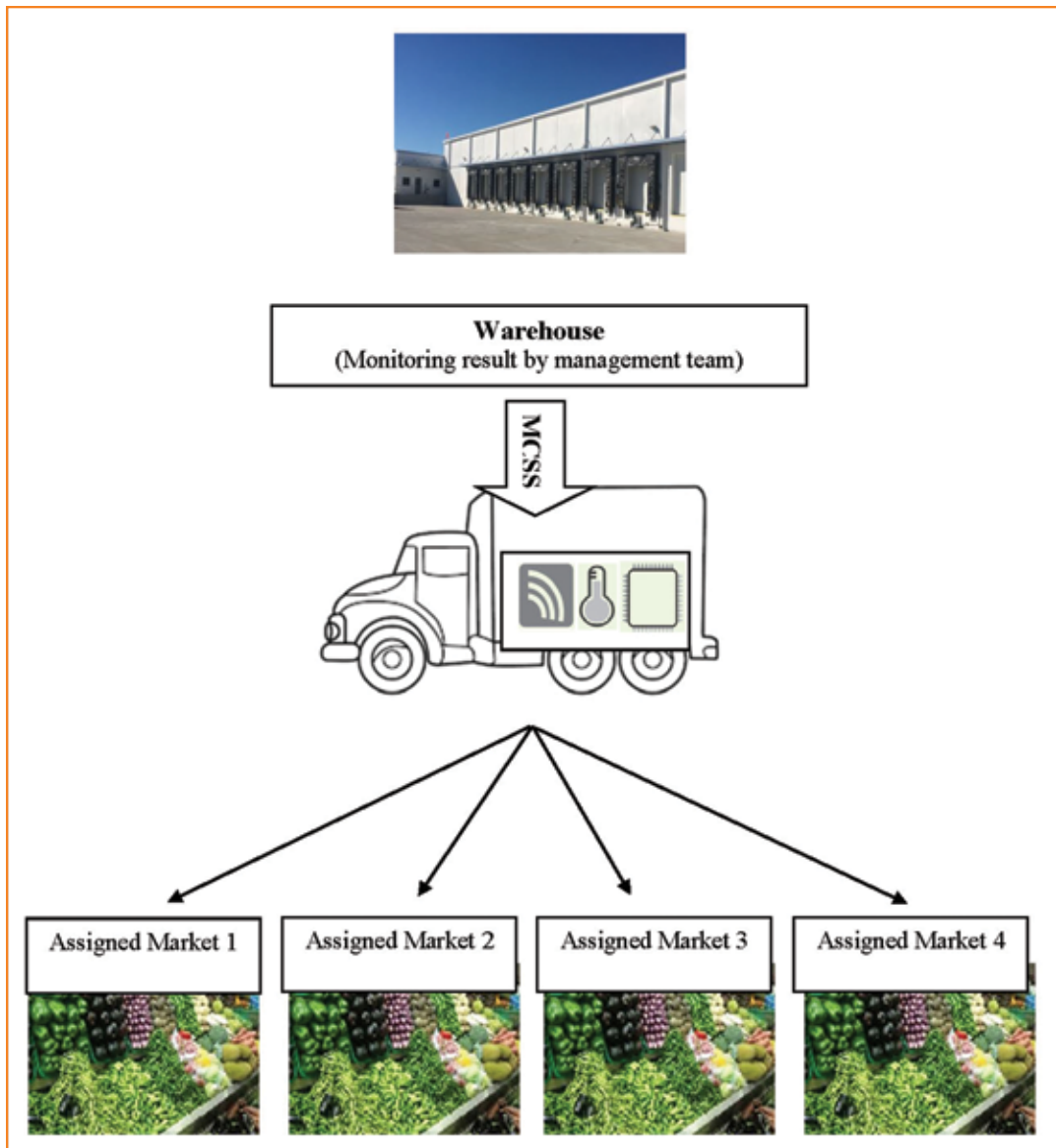
From Table1, it is clearly seen that the country needs more number of cold storages with more capacity and with crop specific dedicated resource facility. Lack of warehouse, cold storage and inadequate transport infrastructure results in loss of fruits and vegetables production to the extent of 40 per cent in India which is indeed a matter of high concern [4]. It is clearly understood that construction of permanent cold storages involves high cost and may not be feasible across the year. In order to offset all these infrastructural challenges and operating bottlenecks it is emergent to introduce mobile cold storage system (MCSS) that can be further augmented by IoT eco-system. The post-harvest crop of the small farmers can directly be loaded into IoT enabled MCSS. Perishable crops and vegetables can immediately be sold to the nearby unorganized market through app based retail system. If the excess items still remain that could be stored in the nearby warehouse / cold storage / food park depending upon the nature of the produce. This would enable the supply of fresh vegetables / crops to the customers directly without any intermediaries and least portion of the crop would have to be stored that can be replenished in the very next day and this would reduce the storing cost and cycle time of business with delivery of fresh food items. The MCSS may be run by the small farmers' community to optimize their profit margin. The organized agricultural firm may collect

The crop wise demand for domestic consumption, export demand and import liability have to be identified both in terms of variety and volume

food grains from fields in various locations and bring them to godowns using MCSS and it would be stored in the respective ware house using MCSS guided direct retailing. On the other hand, the assigned market would send cumulative demand of crop through IoT eco-system. The small farmers or the firm would supply the food grains along with additional responsibility of direct retailing using MCSS in the unorganized market during their transit to assigned market. This would reduce the transportation charge per unit of supply. In the same fashion, the MCSS can be deployed for transfer of agricultural produce from respective warehouses to the assigned market as per the current needs. MCSS supported agricultural retail to the direct customers would be manifested by appropriate mobile app which would help the seller and buyer for loading and unloading of material and ease of hassle free retailing. This is depicted in the following flowcharts.



Source: Developed by the Authors



Source: Developed by the Authors

OUTCOME OF THE PRESENT STUDY

The study has formulated a comprehensive model embedded with 4IR eco-system which can add value to achieve excellence in agriculture supply chain and sustainability, particularly keeping in view the growing threat perception of food security due to perishability, uncertainty and inefficiency of distribution of crop and food grains. If the model can be adopted incorporating minor need based local level modifications, this would not only address the concern of food security but it would also encompass the priorities of relevant SDGs compounded by revenue centric improvisation for rural economy.

IMPLICATIONS

The proposed supply chain ecosystem is expected to achieve various aspects like controlling food inflation,

protecting food grain quality and nutritional value, cost minimization, most feasible and viable distribution system, minimization of wastages of produces, economic value creation and sustainability. **MA**

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SUPPLY CHAIN RESILIENCE AT THE APT COST AND EFFORTS THROUGH VISIBILITY



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Abstract

The trade war between China and U.S. and supply and demand prostrations brought on by the covid-19 have been impelling the manufacturers everywhere to reappraise their supply chains. The vulnerabilities exposed from the wide spread of covid-19 has taught a lot of valuable lessons to Indian supply chain industry, particularly in formulating the supply chain strategies concentrating more on delivering quality despite the cost, including supply chain resilience. After covid-19, skilled labour shortage, manufacturing shifts from host countries to home countries, scarcity of resources with environmental threats, advanced persistent threats, technical disruptions, cyber-attacks and collapse of trust and visibility have emerged as the biggest challenges for SCM organisations. Overcoming the above-mentioned shortcomings, the resilience of supply chain has become the strong urge now-a-days for the SCM units with the need of re-imagining, re-thinking and re-managing the supply chains to ensure disruption free business continuity and progress with growth.

The supply traumatism that started in China in February 2020 and the demand collapse, that go around with, as the global economy abandonment laid bare fragility in the production strategies and supply chain organizations just about everywhere.

The trade diminution and meagerness of pharmaceuticals, with dyslogistic medical supplies and other necessities called attention to their weaknesses, which in turn triggered a revolt in economic nationalism. As a result globally, the manufacturers are running under extensive and fierce

competitors' and political pressure, to enlarge their national production with increased employment in their own nations and to decrease or even eradicate their subordination on sources which are considered vague, vulnerable and even precarious and to rework on their lean manufacturing strategies which include decreasing the quantity of inventory stuck in the Global supply chains.

COVID-19 REVEALING THE VULNERABILITIES OF INDIAN SUPPLY CHAIN INDUSTRY

India being the country of high

population with proportionately scarce pharmaceutical and health infrastructure was deeply impacted by mounting spread of covid-19 and left the Government of India helpless and compelled to pass an order for countrywide lockdown initially for 21 days in March 2020 and continued thereafter which brutally impacted the already struggling economy.

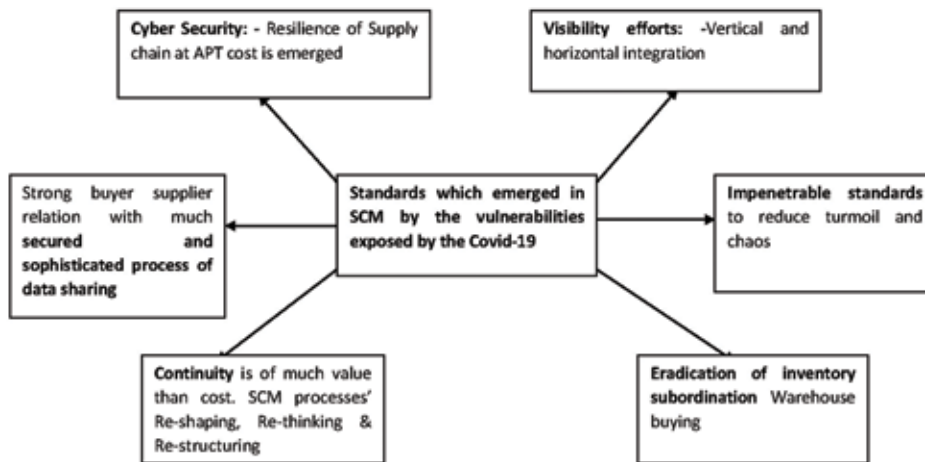
Even before the lockdown, the exponential spread of covid-19 had imposed grievous disruptions in China and virtually closed global trading. The vulnerabilities emerged from this undulated disruption led

many industries towards business closure and left no room for inventory bluffers.

The industries running under Chinese subordination for

inventories were completely devastated and were brutally exposed the vulnerabilities of supply chains.

LESSONS LEARNT BY SCM UNITS FROM THE VULNERABILITIES EXPOSED BY THE COVID-19



Cyber security: A guide to supply chain resilience at APT cost

In the process of supply chain resilience with re-configuration and re-assessment, the security against cyber attacks is of prime importance requiring immediate attention. Let us know the terms “cyber attack” and “advanced persistent threat”.

Cyber attack is an attack on the cyber system of supply chain that seeks to ruin an organisation by picking out its less protected and endangered components. Predominantly, the cyber offenders interfere by constructing steps of a product by positioning a root kit perceiving constituents.

Advanced Persistent Attack is the attack of infiltration and penetration in your organisation by the digital cyber criminals to disrupt your specific and confidential data by gaining access in a very advanced and automated manner.

The attacks are orchestrated in such a sophisticated manner that the mitigation of attack possibility and detection of threat becomes very tough and complex.

Advanced :- Highly sophisticated hacking skills

Persistent:- Not a quick bug but a steady, spontaneous attack, orchestrated by cyber malware; the hacker didn't attack for a while

Threat:- To access and disrupt the confidential data

How does it work

Step:-1 Initial exploitation, reconnaissance & scrutinization, gaining access to the targeted company's network (access initiation)

Step:-2 Malware installation (bugs deployment)

Step:-3 Scrutinization search for other vulnerabilities in the targeted network

Step:-4 Expanded access infiltration and penetration in specific targeted data

Step:-5 Suction, exploitation and manipulation of confidential data (data theft)

Step:-6 Follow up removal of threat evidence

SOLAR WINDS (IT MANAGEMENT VENDOR) APT CASE

Recently a US based company SolarWinds Inc. that was in the business of developing software for businesses and also for the U.S. Federal Government, having a database of more than 3,00,000 customers, to help and manage their network, was being targeted by an attacker of Advanced persistent threat(APT). The outbreak of its cyber defense mechanism is the most poignant and sophisticated event of recent time.

How did it take place: - To distract the cyber system of SolarWinds, the advanced persistent threat criminal used the complicated Zero-day malware, which, when implemented on its developer system, would be able to recognise and could also wait until the developer retrieved the fixed code file. And then it started supplanting the source files and loading the malicious code into SolarWinds software and authorising its software updates.

This modus operandi of cyber attack is commonly known as attack on supply chain as it strikes on all inter-linked organisations using a most trusted software infected by malware.

The complexity of exposing and countering the attack:- A threat detection service, Firewalls and other investigating organisations were contestably meagered in its potentialities in exposing the attack. Reports indicated

The mostly used software to enhance the visibility, now a days, mainly by apparel retailers globally is Radio Frequency Identification Technology (RFID)

that the attack might have begun in early September 2019, but the whole incident reached to cardinality in Dec.2020. Till then all customers of SolarWinds were subject to that exposure for a couple of months, until the whole incident became public.

Hence the CISO's must know that they should have a sound system and processes of supply chain management and should have in place a mature change management processes. However considering the complexity of this cyber attack on supply chain it is worthwhile to consider if traditional supply chain management practices are adequate enough to address such issues like SolarWinds cyber-attack.

OTHER APT ATTACKS ON SUPPLY CHAINS

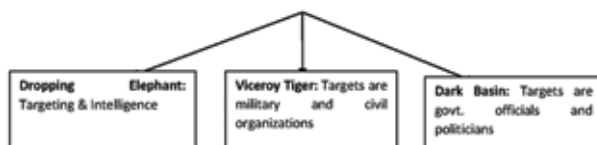
APT attack on Marriot Hotel of StarWood Hotels group: Extremely sensitive information of 339 million guests was breached. The Hotel was imposed with a fine of £18.4 million in 2018 for violating the security norms of data protection.

Ransomware attack on health service executive Ireland in March 2021: - The attacker succeeded because of easily targetable vulnerabilities and the network was less sophisticated. And the list is long.

PROBLEMS

Cyber attacks and advanced persistent threat lead to several problems in supply chain units like for instance loss of confidential and sensitive information that may further result in penalty imposition on vendors for compromising the sensitive information of their customers, numerous malware and BOT attacks that result in data corruption and breach of trustworthiness of SCM unit vendors and so on.

As per the reports of IntSight "Three Indian APT Groups"



HOW TO ALLEVIATE THE CYBER ATTACKS AND ADVANCED PERSISTENT THREAT

Asia-Pacific (APAC) Region's Chief Technology Officer Bryce Boland has reportedly said that though mostly organizations are seeking the legal security for advanced

persistent threat(APT) solutions still relying solely on that is not sufficient for supply chain APT resilience. The APT and cyber attacks cannot be alleviated using single countermove but a sophisticated phenomena including people, processes, methodology and technology should be used. Suggested precautions to mitigate the APT attacks and to have resilience in SC units are technical diligence and surveillance, malware detection and eradication, containment of vulnerabilities and segregation of threatened components from whole network/software, data monitoring and network surveillance to identify double dealings, scrutinization of malware infiltration, technical up-gradation and advancement, prevention from backdoor penetration, use of software like Firewalls and network detection & response, training and technical up-gradation of IT/ Network personnel.

'Visibility' with respect to Supply chain

The translucency of trailing a product from the shipping initiation to the end delivery point is termed as visibility in SCM. That allows all the interested parties involved in the movement of a product from X to Y, to access the same valid and factual information at any point of time, mainly regarding status of inventories.

The visibility efforts

The mostly used software to enhance the visibility, now a days, mainly by apparel retailers globally is Radio Frequency Identification Technology (RFID) that requires encoding of information before it becomes visible to the reader. Companies like Adidas, Macy's, Secret and also many pharmaceutical companies are using RFID technology for tracking their inventories in Supply Chains. Also the SCM units are much inclined towards the warehouse buying and vertical and horizontal integration which are the recently emerged tools to enhance visibility with reduced risk of APT attack in more sophisticated manner and to mitigate the vulnerabilities for having supply chain resilience.

It is likely that in the process of re-configuration of supply chain strategies, industries would seek to construct a vigorous stock as hedge against supply chain interruptions. Many organisations would like to shift some parts of their supply chain in India only.

CONCLUSION

To eradicate and mitigate the threats of advanced persistent attacks and cyber-attacks including malware infiltration and data breach and assassination, SCM units are now much focused on technical up-gradation and advancement in addition to providing training to their employees to deal with such issues, rather than relying on traditional methods with legal assistance. According to Computer Emergency Response Team (CERT) the

compounded annual growth rate (CAGR) of cyber security products will see a growth of 17 per cent in 2022. The existing expenditure of \$ 58 million on cyber security will reach \$ 810 million by 2022 i.e. a 16 per cent increase in its CAGR. For increasing visibility, despite increased cost vertical and horizontal integration and warehouse buying are now seen as a weapon against APT in SCM. That also serves the purpose of inventory independency and help in achieving the goal of much advanced, sophisticated, re-imagined, re-configured and re-assessed business processes for supply chain resilience, especially after COVID-19. **MA**

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AT THE HELM



Our heartiest congratulations to CMA G Srinivasan, Member of the Institute who has taken over the charge as Director (Finance) in South Eastern Coalfields Ltd, Bilaspur on 12.08.2022.

He has wide experience of more than 35 years in Finance Discipline in Coal Mining Industry and has served in various capacities in WCL, SECL and CIL. During his tenure at Coal India and subsidiaries, he has worked at Mines, Areas, Subsidiary Corporate Offices and CIL Corporate Office. He has handled various assignments such as Corporate Treasury Management, Direct and Indirect Taxation Matters, Corporate Accounts, Cost and Budget, Sales Account and other finance functions. He played a vital role in GST Implementation in SECL. He took a lead role and ensured successful implementation of ERP/SAP FICO Module in WCL and in all the Six subsidiaries of CIL in the Second Phase of ERP/SAP implementation. He is a Commerce Graduate from Madras University and an Associate Member of the Institute of Cost Accountants of India.

We wish CMA G Srinivasan the very best for all his future endeavours.

EFFICIENCY OF PORT OPERATION ITS INFLUENCE ON SUPPLY CHAIN NETWORK DESIGN

Abstract

Supply Chain Management is a very convoluted network that transports the material or product to the end users. The products are distributed through different channels. Ports integrate the supply chains with the consumption market and production market globally and regionally. Also port being an intermediary for supply chain network, the efficiency of port operation has a great influence on the movement of cargo. Port operational indices like average turnaround time of the vessel, average pre-berthing detention and average output per ship berth day have an impact on supply chain network design. The author makes an attempt to find out the most efficient port, among the major ports, based on the above indices, while keeping other indices as constant. The most efficient port may have a competitive advantage over other ports and could be a preferred port in the supply chain network.

INTRODUCTION AND BACKGROUND OF STUDY

India has one of the longest coastline of around 7516 kilometres, with 12 major ports and 197 small ports. Ports play an important role in the supply chain network. Port is an important link in the upstream and downstream supply chain. After the advent of JIT concept the suppliers are on their heels to supply the materials to their customers in a lesser time frame and hence the entire supply chain has to rotate with a shorter lead time. Port being one the significant links in the supply chain, it has to function very effectively and efficiently by handling the cargo at a lesser cost and lesser dwell time which may support the supply chain to work effectively.

Major ports of India are managed by Major Ports Authorities Act under the Ministry of Ports Shipping and Waterways, Government of India. The scope of this



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study covers only the major ports. From the literature survey it is evident that the port operational indices like average turnaround time of the vessel, average pre-berthing detention and average output per ship berth day have an influence on the supply chain network and demand chain network.

The objective of the study is to find out and rank the operationally efficient major ports with reference to the indices like average turnaround time of the vessel, average pre-berthing detention and average output per ship berth day, which have an impact on the supply chain network design.

LITERATURE REVIEW

The paper by Song and Panayides (2008) speaks on the growth of port and logistics. Ports have been concentrating on the development of infrastructure and facilitate the Exim trade. It has focused on the efficiency of the ports with different parameters and also sought to find out the relationship that exist between supply chain network integration and some of the indices of port competitiveness. This research paper by Nze & Onyemechi (2018) talks on the ship turnaround time in the selected African ports and tries to relate between the port congestion and the supply chain grids. The findings disclose that the congestion is largely due to ports inefficiency, absence of proper regulation and lack of active control mechanism.

The research work by Han (2018) envisages on Busan port and tries to correlate between supplier and port users

and to recognise the influence of port supply chain amalgamation. The results display that the port users' integration has an impact on the performance of the port.

The study by Mamndal et al (2016) was to find out the relationship between supply chain abilities of collaboration and how it impacts supply chain resilience. Also it attempts to find out whether it has an impact on supply chain accomplishment. The study discovers the connection between integrated logistics competences and the supply chain potentials. The paper finds that integrated logistics competences has a great impact on supply chain alliance.

The research study by Song & Panayides, (2008) concentrates on how e-commerce influence the SCM from an industrial perspective. The paper envisages on how 'techniques and models' relating to logistics have upgraded this e-commerce logistics considerably. ()

The study by De Martino et al (2011) has analysed the problems in port value creation with respect to supply chain integration and makes an

The "Average output per ship berth day" is an important index as higher the average output, higher the efficiency of port

attempt to recognize from where the value can be created in ports. A model has been formulated to identify the factors for value creation as efficiency largely depends on the organisation formulation and structure.

Loh & Van Thai (2014) argue that the functions of the port may have an impact on supply chain network. Further it speaks on the inefficient functioning of port and how the deficiency has an effect on supply chain grid.

Verschuur et al (2011) have examined one thousand three hundred important world ports to analyse how the supply chain globally has an effect of the global trade flows through ports and further correlates the ports to the functioning of the economy.

Lee & Kim (2009) speak on how SCM effects the positioning of container ports and how the formulated models have a global application. The study also makes an attempt to correlate the performance of the ports on SCM arrangement.

METHODOLOGY

The author uses five years' data from the secondary source of the Ministry of Ports, Shipping and Waterways. The indices like average turnaround time of the vessel, average pre-berthing detention and average output per ship berth day are considered for the study as these are important parameters to determine the operational efficiency of the port. These indices are ranked based on 5 years' average. The twelve major ports' data were collected for the study. For the purpose of convenience, the Kolkata Port Authority's (Syama Prasad Mookerjee Port) data is split into Kolkata Dock and Haldia Dock, though both the docks belong to Kolkata Port Authority. Since their operation and infrastructure is different the data is also shown dock wise.

DATA ANALYSIS

Port	2016-17	2017-18	2018-19	2019-20	2020-21	Average of 5 years	Rank
Kolkata Dock	4.43	3.77	3.35	3.17	2.13	3.37	11
Haldia Dock	5.47	3.75	3.03	2.75	2.91	3.58	12
Paradip	4.99	3.31	2.51	2.34	2.42	3.11	10
Vishakapatnam	3.75	2.58	2.51	2.43	2.75	2.80	8
KPL	2.68	2.19	1.97	1.73	1.79	2.07	4
Chennai	2.51	2.21	1.98	2	2.14	2.17	5
V.O.C	4	2.4	1.76	1.67	1.7	2.31	6
Cochin	1.99	1.87	1.94	1.45	1.49	1.75	2
NMPT	2.35	2.04	1.93	1.9	1.98	2.04	3
Mormugao	3.43	3.15	3.48	2.33	2.41	2.96	9
JNPT	1.96	2.23	2.13	1.23	1.19	1.74	1
Mumbai	2.48	2.76	2.69	1.7	2.07	2.34	7
Deendayal	4.51	4.25	4.68	2.54	2.59	3.71	13
All Ports	3.48	2.91	2.73	2.12	2.18	2.68	

(Source: Ministry of Ports, Shipping and Waterways)

The vessel turnaround time is the total time the vessel spends at berth, for the discharge or loading of cargo or for any other marine service, from its arrival at the outer anchorage to departure from the outer anchorage. The average turnaround

time is calculated by the average turnaround time of all the vessels calling at a particular port for a particular period. The port with a lowest average turnaround time is the efficient port. The rank of the port is calculated based on the average

of five years' data. From Table 1 above it is evident that JNPT ranks first followed by Cochin port. The port with a least efficiency in terms of average turnaround time is Deendayal Port (erstwhile Kandla Port)

TABLE 2
AVERAGE PRE-BERTHING DETENTION (DAYS)

Port	2016-17	2017-18	2018-19	2019-20	2020-21	Average of 5 years	Rank
Kolkata Dock	0.57	0.62	0.46	0.7	0.51	0.57	5
Haldia Dock	2.49	3.15	2.72	2.96	2.71	2.81	13
Paradip	2.47	0.87	0.3	0.64	0.26	0.91	7
Vishakapatnam	1.22	2.37	1.29	0.05	0.05	1.00	9
KPL	0.96	0.57	0.18	0.12	0.08	0.38	2
Chennai	0.38	0.86	0.15	0	0	0.28	1
V.O.C	1.8	1.13	0.68	0.65	0.5	0.95	8
Cochin	0.48	0.43	0.53	0.48	0.64	0.51	3
NMPT	0.62	1.16	1.1	1.26	1.09	1.05	10
Mormugao	1.67	1.31	1.24	1.21	1.26	1.34	11
JNPT	0.77	0.92	0.82	0.77	0.91	0.84	6
Mumbai	0.46	0.96	1.07	0.16	0.1	0.55	4
Deendayal	2.02	1.9	2.02	1.85	2.81	2.12	12
All Ports	1.27	1.39	1.1	0.95	1.04	1.15	

(Source: Ministry of Ports, Shipping and Waterways)

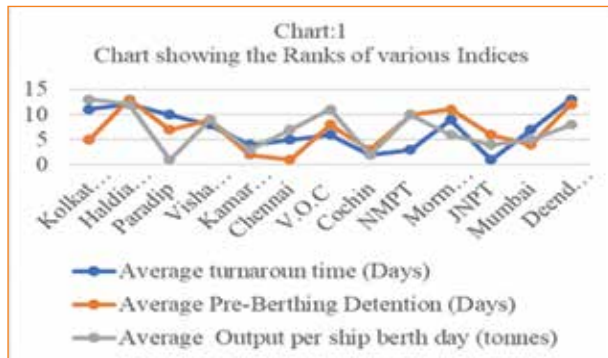
Pre-berthing detention is where the vessel is waiting for the berth at the outer anchorage as all the berth in the port is fully berthed by other vessels. Lesser the pre-berthing detention more efficient in operation. The rank of the port is calculated by the average five years' data. From Table 2 it can be seen that Chennai port is ranked first in terms of average pre-berthing detention, followed by KPL (Kamarajar Port Limited). The port with a least efficiency is Haldia Dock under Kolkata port authority.

TABLE 3
AVERAGE OUTPUT PER SHIP BERTH DAY (TONNES)

Ports	2016-17	2017-18	2018-19	2019-20	2020-21	Average of 5 years	Rank
Kolkata Dock	6080	6962	7765	7174	8210	7238.20	13
Haldia Dock	12537	13832	15083	15192	14243	14177.40	12
Paradip	30245	33440	36030	32001	30224	32388.00	1
Visakhapatnam	16823	17592	18281	20032	17238	17993.20	9
KPL	26235	28456	27678	26851	23945	26633.00	3
Chennai	19220	19113	21001	20340	20331	20001.00	7
VOC	13612	15557	19494	19334	19302	17459.80	11
Cochin	23539	28143	30150	31258	30915	28801.00	2
NMPT	17094	16378	18126	19140	19048	17957.20	10
Mormugao	30414	24948	18685	19944	24305	23659.20	6
JNPT	23897	22526	25847	28296	27711	25655.40	4
Mumbai	20915	22996	25941	25608	23659	23823.80	5
Deendayal	18235	22903	21373	21109	10467	18817.40	8
All Ports	19080	20581	21839	21914	19171	20517	

(Source: Ministry of Ports, Shipping and Waterways)

“Output per ship-berth day” means the throughput of cargo handled on a berth day per vessel. “Average output per ship berth day” means the average of all vessels cargo handled (throughput) at a port for all berth days for a particular period. The higher the average output per ship berth day (tonnes) better the efficiency in operation. From Table 3 above it is seen that Paradip port ranks first in terms of average output per ship berth day followed by Cochin Port. The least performing port is Kolkata dock under Kolkata Port Authority.



CONCLUSION

Supply chain management is a very intricate network that transports the material or product to the end users. The products are distributed through different channels. Ports integrate the supply chains with the consumption market and production market globally and regionally.

Since port being an important intermediary for supply chain network, the efficiency of port operation has a great influence on the movement of cargo. The turnaround time of the vessel and pre berthing detention of a vessel play a vital role in the efficiency of port operation which in turn impacts the efficacy in integration of supply chain.

In the case of average turnaround time, (refer Table 1) JNPT and Cochin Port have performed better when compared to other major ports. These two ports have an average turnaround time (average for 5 years) of vessel which is less than two days and hence these two ports may be the preferred ports in the supply chain network.

In the case of pre berthing detention (refer Table 2) Chennai Port and Kamarajar Port Ltd (KPL) performed better than the other major ports; the average pre berthing detention (average for 5 years) for these ports are less than 10 hours (0.28 and 0.38 days), which means the vessel can be berthed at the designated berth within ten hours of arrival at the outer anchorage. Since the supply chain management lays emphasis on reducing timing delays, the port with a lesser pre berthing detention may be preferred.

The “Average output per ship berth day” is an important index as higher the average output, higher the efficiency of port and also the port can derive advantage from economy of scale which the port can directly benefit from the reduction of cost per hour of operation. From Table 3 it

is seen that Paradip Port and Cochin port have performed well, compared to other major ports and hence these two ports may have a competitive advantage over the other ports.

The turnaround time of vessel and pre berthing detention are very critical. If the ports fail to reduce these parameters significantly, the port service just remains out of sync in the supply chain network. **MA**

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VOCAL FOR LOCAL GROWTH OF DOMESTIC SUPPLY CHAIN



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Abstract

*One of the positive fallouts of the Covid crisis seems to be the policy initiatives of GOI in line with PM's clarion call for **Vocal for Local** targeted to expand the efficiency and competitive edge of the indigenous industries.*

Basically it may be in line with the Swaraj calls during the pre-independence India or the earlier steps like Make in India but there were obvious risk minimization steps necessitated by the dislocation of the international supply chain as a result of the world wide shut down due to covid impacts.

Many segments of the economy have already started benefitting from the policy and it seems to be on a firm course for greater good for the overall economy.

INTRODUCTION

COVID resulted in the international supply chain disruption which enhanced the importance of the domestic supply chain to withstand such risk. Imports have become costlier with rising forex rates of dollar and disruption in sea freight.

In view of this our PM's clarion call of 'Vocal for Local' (VFL) has become all the more meaningful for reducing risks of imports.

The relevance of 'vocal for local' is enhanced due to the following facts also :

1. Being the second most populated country of the world with growing purchasing power, India becomes prone to high consumption of imported goods unless the local manufacturers radically step up indigenous alternatives.
2. The saturated agricultural sector makes it imperative for the secondary sector to

radically grow which in turn requires that the 'vocal for local' criteria is adopted for greater market share of both the domestic as well as export markets.

3. In the ultimate analysis VFL will result in production of better Indian products for overall growth of Indian economy.

Thus the PM's stress on the Five Is "intent, inclusion, investment, infrastructure and innovation" made at 125th anniversary of CII (in 2020) for revival of Indian economy particularly for the manufacturing sector, seems to be aligned to VFL.

BASIC POLICY INGREDIENTS OF VFL [1]

1. The Framework was built upon the GOI's 2017 Public Procurement (Preference to Make in India) to encourage local manufacturing and applicable to all GOI entities.

2. Global tenders made applicable for value above Rs 200 crores and tenders upto Rs 200 crores reserved for local suppliers with at least 50 per cent local content.
3. Production Linked Incentive (PLI) scheme initially formulated for electronics industry was later extended to ten other sectors including ACC Battery, Electronic /Technology Products, Automobiles & Auto Components, Pharmaceuticals/ drugs, Telecom & Networking Products, Textile Products: MMF segment and technical textiles, Food Products, high-efficiency Solar PV Modules, White Goods(ACs and LED) and Specialty Steel.
4. Railways also restricted procurement of all components related to wagon items, track items and LHB coaches, except for a few products, from local suppliers having more than 50 per cent local content.

SPECIFIC VFL DEVELOPMENTS NOTED RECENTLY:

1) Digital supply chain management for SMEs [2]

MSMEs contribute almost 30 per cent of GDP, 40 per cent of the workforce, and around 45 per cent of the total exports but most of these are unorganized facing credit crunch and limited scope of expansion.

To ensure these businesses continue to lead the country towards economic growth, there is an urgent need for the sector to embrace a digital-first approach that can help businesses reap immediate benefits like better supply chains, technological upgrades and prepare for a future in flux times like the covid crisis as also for real time linkages with localized major industrial hubs which could seamlessly use their outputs with minimum transport cost and time.

2) EPC Business – Impact of ‘Vocal for Local’[3]

- a. Increase productivity by 30 to 35 per cent and facilitate seamless adoption of new digital tools.
- b. Improve productivity during project execution, from pre-bid engineering to supply chain interaction.
- c. Enhance employee output by enabling standardization and workforce communication.
- d. Augment workforce retention by 65 to 70 per cent by offering better work-life balance to the local resources.

Thus strategic planning is needed from being profit-driven to becoming more people-centric by EPC organizations by adopting technologies to meet their labor requirements, improve processes, and save time and cost.

3) Realignments in Global Trade and India’s Position [4]

The Indian economy is getting unlocked because of digitization and simpler tax structure in tune with the

“re-globalization” that is underway as companies alter supply lines to face the new geopolitical realities. Group CEO of HSBC says that India has all of the raw material it needs because it has got significant supply of labor in order to be a supplier to the world. The world’s fifth largest economy has improved in “ease of doing business” and many reforms such as the introduction of GST has made compliance easier making India a much more attractive market and providing opportunity to India to be a supplier to the world. He believes that the global trade is leading to ‘re-globalization’ where multiple supply chains are springing up in many geographies rather than depending upon one or two.

4) Global Trends & Needs-Electric Vehicle [5]

Compared to just 22 cars per 1000 people in India there are nearly 980 per 1000 in America and hence the sale of 4,87,000 electric cars in USA in 2021 is significantly matched by sale of nearly 43,000 electric three wheelers in India during the same period. In fact the expansion of two and three wheelers in recent times in India will have significant global ramifications in Asia, Africa and Latin America for the global fight to reduce the carbon impact from fossil fuelled vehicles.

5) FMCG Story Before and After VFL [6]

In the FMCG market, Indian brands have been leaders in items such as hair oils, health supplements etc., whereas international brands have been leading in products such as shampoo and toothpaste, though recently Indian brands have also been gaining market share in toothpaste with herbal versions.

Thirty years back hardly any local brand was there in the food segment but now more than 60 per cent of the brands in the food industry are local brands. Even MNCs like ITC have invested extensively in developing a portfolio of Indian brands.

However the GOI needs to consider

uniform 5 per cent GST for Ayurvedic products and medicines comprising of proprietary and OTC products instead of current 12 per cent since over 80 per cent of Ayurvedic products fall under the proprietary and OTC categories.

6) Specialty Steel – Transformer steel import substitution [7]

Though the import content of the highly expensive CRGO steel was hardly 2 billion dollars (approx. around 14000 crore) annually ten years back, due to the concentration of technology in few manufacturers around the world, India had to create pilot plant under Public private partnership (PPP) model between NML (CSIR) and Tata Steel in 2012 to develop the indigenous capacity of this type of steel mainly required for Transformers.

The above is a leading example of the challenges faced under the VFL targets and the importance of dedicated R&D investments to overcome these.

Also due to the limited manufacturers in the world, once the efforts to indigenously develop a near equivalent cost effective and qualitative substitute is successfully concluded, it gives rise to the potential of very good export markets in the developing nations where the power and transmission sector is projected for growth in the next few years. Now the GOI’s PLI scheme gives added incentives for specialty steel like CRGO.

7) An ‘India plus’ is going to happen in every industry [8]

The geopolitical situation in the world now further accentuated by the Ukraine-Russia war, is creating a lot of disruption in the global supply chain which will give rise to an “India plus” opportunity. It will happen in respect of materials, chemicals, electronics, semiconductors and batteries.

This is not only for India’s needs but for global needs. An India plus is going to happen in every industry. Technology needs to find substitute for imported resources.

DESIGN TO COST FACTOR

Supply chain realignment especially to substitute imported components with indigenous components involves, apart from the qualitative and efficiency factors, the cost viability of such substituted component and as such Design to Cost (target cost) factor becomes relevant for the success of the same.

No matter the sentiment to use indigenous substitutes has its appeal, the ultimate success for its wider acceptability is linked to the commercial viability and hence the competitive level of cost is well defined by the landed cost of the imported item it is targeting to replace. Hence the importance of Design to Cost factor is one of the major factors for the success of VFL.

SUGGESTIONS TO FURTHER INTENSIFY THE VFL SCHEMES

- a. Development and alignment of Industrial hubs around major industries like the BHEL optimize the business results of all stakeholders and promote VFL.
- b. Moreover novel ideas and innovation by big industries in their effort not only to seek import substitution but also to promote their in house consumption of essentially imported energy consumption will promote VFL.
- c. Purchase preference is to be expanded so as to give preference to the local L2 bidder to consider acceptance of the L1 price.
- d. Price preference for local bidder in global tenders up to a specified limit to curtail the risk and cost of the rising forex

Thirty years back hardly any local brand was there in the food segment but now more than 60 per cent of the brands in the food industry are local brands

currency on the buying Indian entity.

- e. PM's clarion call for targeting energy independence (i.e. net energy exporter) by 2047 depends largely on mega reduction of imported fossil fuel to be replaced by indigenous green alternatives.
- f. Government can increase the incentives for expansion of domestic supply chain through pointed tariff mechanism to curtail the imports of those items which can be easily procured in the local market in line with similar attempt under Defence procurements.
- g. Companies Act needs to be amended to make the Vocal for Local status report mandatory for all companies with turnover in excess of a given amount (say over Rs. 500 crore) so as to disclose the policy and actual achievement on long term reduction (say past 3 years and targeted for next 3 years) of their imports as well as expansion of their localized supply chain. This can be part of their disclosure on contribution to the national exchequer.

CONCLUSION

In the long run the clarion call for VFL should lead the Indian economy to have better and internationally competitive products not only for the benefit of the local consumers but also for the radical growth of the Indian economy to regain its age old role in the world export markets. Hence the betterment of the local supply chain is both an important ingredient as well as an important milestone achievement to be implemented through focused VFL schemes. It is imperative for all the elements of local supply chain to thus radically improve the efficiency, quality and cost acceptability and thus the overall competitive factor for VFL to succeed in the long run. MA

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SUPPLY CHAIN MANAGEMENT 4.0 AND IoT TECHNOLOGY

Abstract

SCM is the chain link process from supply of raw materials to end users. For this various technologies are being used in SCM 4.0. This article explores the use of IoT technology in SCM and its challenges. Technology plays a key role in the development of industry and SCM, but there are certain challenges in adopting them. The IoT makers can look up to it and provide better solutions. The business should look to adopt various technologies like IoT for their growth and betterment of the economy.

INTRODUCTION

Supply chain management is briefly referred as SCM. The supply of goods from raw component to final consumables to the consumers is known as supply chain management. It involves various process from purchase of raw material, conversion of raw material to a product, storing, packing, transportation and delivery of the product to the consumer. It can be described through a flow chart as under:



The supply chain consists of three components which link the supplier and the end user. These are supply, business and end user. Supply chain network consists of various processes starting from supplier and ending with to the end user and links, producers, warehouse and storage and customers. In this network there are various costs incurred such as freight, material cost, manufacturing cost, packing and transportation cost.

SUPPLY CHAIN MANAGEMENT

SCM functions are the primary link of all business

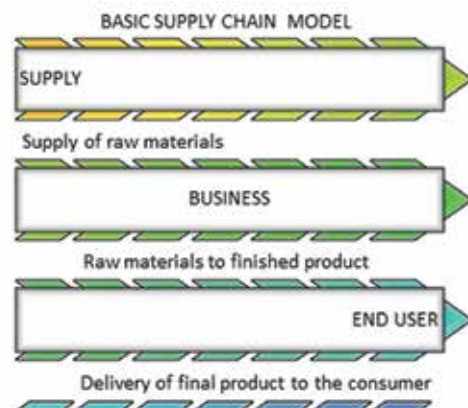


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activities from planning and organising the product with information flow with available funds according to the consumers. It provides right product at the right place to the customer at right cost. The supply chain increases the value generated. The three main flow in SCM are stock flow, information flow and flow of finance.



PROCESS OF SCM

Supply chain management consists of five process as listed below



1. Planning

Every business organisation needs to plan its product well to achieve its organizational goal. They must look into the market demand for the product and based on that plan must be made in accordance with the available resources of the organisation like location of manufacturing process, warehouse and availability in the market.

2. Sourcing

In this process, the organization needs to ascertain the best possible supplier of raw material for their business. For this process organization needs to look at various factors such as quality of the raw material, cost of the raw material, freight cost, terms of payment and duration of carriage inward.

3. Producing and Storing

An organization needs to produce the product in its manufacturing unit, which involves machinery cost, labour cost, electricity cost, processing cost, testing at each process, wastage and packing cost. These costs go to determine the product price. The organization should look to minimize the cost of production with better quality. Storing is the next most important process. For storing the goods produced, packing is very important. Packaging reduces damage and mishandling of the product. Storage is mainly used to make the product available in the market in regular intervals.

4. Transportation and Delivery

Goods which are produced and stored in the warehouse are then transported to the end consumers based on the order given by the consumers. This process involves transportation cost, scheduling the delivery, tracking, invoicing and payment for the goods delivered to the consumer.

5. Replacement or return

This is the final process of SCM and this process is known as post delivery service to the users of the product. If the product is defective or damaged the consumer would

IoT provides better transparency, enables real time analysis and recommended actions, minimizes human errors and their effort

ask for replacement or return. The SC manager needs to replace the product within the time period and with low-risk management. In case of replacement the SC manager should ensure to take back the product within the time period and refund payment within the stipulated time schedule. Tracking facility enables the receiver the facility to track their consignment's delivery status.

LOGISTICS AND SUPPLY CHAIN MANAGEMENT 4.0

Industry 4.0 has changed the logistics and SCM to move forward with the use of technologies. Industrial technologies like IoT, AI, cloud, big data and blockchain make the production and process of production easier with smart factories. This provided the foundation for smart supply chain management. Technologies like IoT make SCM process easy by relating each process of the industry.

In Industry 4.0, SCM gains huge advantage with interconnected process as it reduces the cost of operations, provides better inventory management and enhanced chances of selling the product. Adoption of Industry 4.0 needs more funds and investment and greater efforts.

IoT (Internet of Things)

IoT refers to Internet of Things, which means the devices that are connected to each other through internet. It has the ability to collect and store data with minimal human interference.

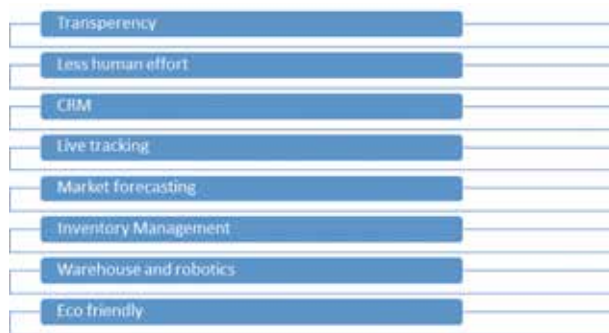
IoT in supply chain

Internet of things helps to track the product or the raw substance which is in the movement or in rest. The supply chain manager can easily identify the goods and their location at any time. The users of the goods can get regular updates on transit and in case of any delay, they can also identify wheatear the goods are damaged. IoT further helps to monitor the inventory and warehouse and reduces human efforts.

BENEFITS OF USING IOT IN SCM

The IoT technology provides huge benefits to SCM like data transparency, live tracking of the product, better management of inventory and warehouse. It reduces human efforts and saves time, minimizes the transportation

risk and most importantly, helps in maintaining better customer relationship with early indications and tracking. Following are certain benefits of using IoT in the supply chain management.

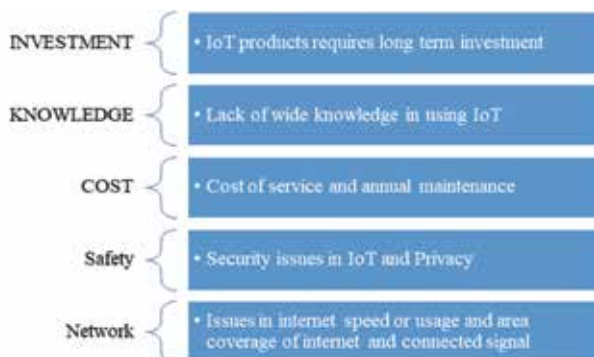


REVIEW OF LITERATURE

Tjahjono, B., Esplugues, C., Ares, E., & Pelaez, G. (2017), analysed the effect of supply chain and Industry 4.0 with source of supply, inventory storage, transportation and delivery of the order. The study concludes that, the usage of 3D printing and virtual technology provides better opportunity. Further IoT, big data analysis, cloud data gives more opportunities and it can also be a threat to the business. The threat is mainly of interconnection. De Vass, T., Shee, H., & Miah, S. (2021), investigated IoT usage in supply chain and its possibilities and difficulties in retail industry. The findings and conclusions of the study are that adoption of IoT technology increases the data gathering, follow of information, business intelligence and clarity of product in motion. The study found certain difficulties from retailers like lack of management support, cost of investing in new technology, shift to new technology, acceptance by stakeholders, reluctance in sharing of information and inability to use the information and its exchange.

CHALLENGES IN ADOPTING IoT

IoT is the advanced technology which has lots of advantages to the business, but there are certain challenges in adopting it in the business. The common challenges in adopting IoT in business are as follows:



CONCLUSION

Industry 4.0 and 5.0 have huge growth potential in the industry and in SCM. The advancement in technologies like IoT, AI, Cloud storage, big data analysis, Blockchain provide greater advantage to the industry. IoT provides better transparency, enables real time analysis and recommended actions, minimizes human errors and their effort. This technology is in its early stage of adoption and it involves certain challenges like long term investment, cost of maintaining, level of knowledge to use IoT devices with full effect and security and network issues. IoT makers can look into this and provide better standard products which would help the industry and SCM to grow. **MA**

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A BRIEF OVERVIEW OF SUPPLY CHAIN MANAGEMENT AND THE EMERGENCE OF QUICK COMMERCE IN THE BACKDROP OF COVID-19 PANDEMIC

Abstract

This article succinctly describes all of the aspects of supply chain in the Indian setting and various supply chain management strategies. It also sheds light on how a new business model, such as fast commerce, is likely arise in the near future following the Covid 19 epidemic.

INTRODUCTION

In recent years, India's manufacturing industry has become one of the country's fastest-growing industries. The current administration's "Make in India" campaign has the goal of making India a leading manufacturing country and raising its international profile. According to the IBEF, by 2030 India could contribute more than US\$ 500 billion annually to the world economy, making it one of the countries with the highest potential to become a global manufacturing center. India's manufacturing sector showed significant signs of recovery in the second quarter of FY2022, with a capacity utilization rate of 72 per cent, according to a survey done by the Federation of Indian Chambers of Commerce and Industry (FICCI). This is a significant improvement from the disastrous effects of lockdowns during the COVID 19 pandemic. The pandemic has created an opportunity for India's manufacturing industry to pool its resources and piqued large global manufacturers' interest in locating factories there. With a high degree of innovation, "Make in India" and "Atmanirbhar Bharat" may do wonders for the manufacturing sector's growth.

THE LION STARTED ROARING

India's manufacturing purchasing managers' index (PMI) increased from 54 in March 2022 to 54.7 in April, 2022. This was driven by an increase in production of coal, electricity, refinery products, fertilizers, cement, and natural gas. Coal production increased by 28.8 per cent, electricity by 10.7 per cent, refinery products by 9.2



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per cent, fertilizers by 8.7 per cent, cement by 8 per cent, and natural gas by 6.4 per cent. In April 2022, the retirement fund organization EPFO added 1.7 million net subscribers, a 35 per cent YoY increase. Zoho, an information technology leader, announced in October 2021 that it would invest Rs. 50-100 crore (US\$ 6.7-13.4 million) to create a new firm focused on R&D related to manufacturing. This move signals a shift in the company's focus from purely software-based solutions to those that also incorporate hardware. The new firm will help Zoho meet the needs of its growing customer base in the manufacturing sector. First Solar, an American manufacturer of solar panels, intends to spend Rs. 4,800 crores (US\$ 645.7 million) in Tamil Nadu for a new 3.3 GW production plant. The business intends to begin production with contract manufacturer Cloud Network Technology, a Foxconn subsidiary in Chennai. Samsung's Noida facility began producing mobile display panels in April 2021, with plans to increase production of IT display panels. The State Government provided incentives to Samsung Display Noida, which invested Rs. 4,825 crores (US\$ 650.42 million) to relocate production from China to Uttar Pradesh. Bharti Enterprises Ltd. and Dixon Technologies (India) Ltd. established a joint venture in April 2021 to take advantage of the PLI programme of the Government for the production of telecom and networking devices. By 2025, the business hopes to raise the capacity of its AC production to 8 lakh units by investing Rs. 100 crore (US\$ 13.48 million).

A MASTER STRATEGY FOR FORWARDING INTEGRATION: EMERGING OF INDIA'S NON-PROFIT ONDC

The growth of the manufacturing sector demands a strongly integrated supply chain mechanism along with the e-commerce market. According to Government estimates, India's

Quick commerce is a business model that brands are adopting to make visible and significant forays in consumer homes

e-commerce market was valued at more than \$55 billion in gross merchandise value in FY 2021. This is expected to grow to \$350 billion by the end of the decade. Majority of the market is controlled by Amazon and Walmart's Flipkart, who hold more than 60 per cent of the market share between them. The Indian Government has started to integrate forwards in order to create more marketing opportunities, especially for the MSMEs and the Indian buyers. As a prospective alternative to the dominant global giants Amazon.com and Walmart, have recently launched their Open Network for Digital Commerce (ONDC) in their fast-growing e-commerce market. (ONDC, 2022). The ONDC network will enable the display of products from all participating e-commerce platforms in search results across all apps on the network. In a country of 1.35 billion people, ONDC aims to raise e-commerce penetration to 25 per cent of India's consumer purchases in the next two years from nearly 8 per cent at present. It also hopes to sign up 900 million buyers and 1.2 million sellers on the shared network within the next five years while achieving a gross merchandise value of \$48 billion. (Ministry of Commerce & Industry, 2022)

NEED FOR THE ABILITY TO CAPTURE AND HANDLE DYNAMICS OF THE SUPPLY CHAIN

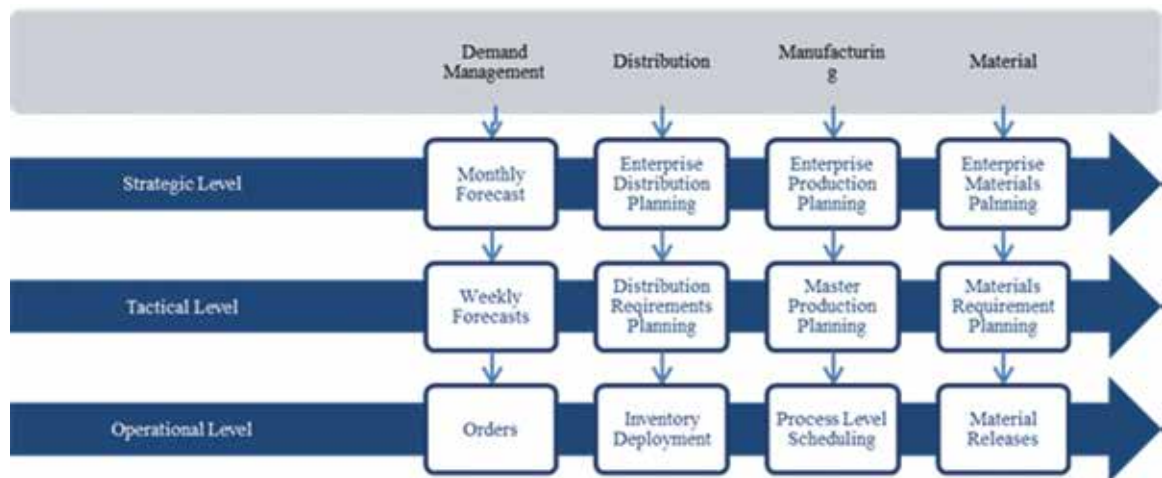
Indian companies should improve their capabilities to take this opportunity and emerge as a new global giant. It is only possible only

if the major challenges are addressed properly. A major challenge for an enterprise to stay competitive in today's highly competitive market environment is to capture and handle the dynamics of its entire supply chain (Puigjaner & Lainez, 2008). Indian industry, in response to competitive pressure from other big exporting countries and giant e-commerce networks, is focusing on reengineering operations. As a part of this reengineering, the processes are being streamlined to be more useful and automated, and the workforce is reorganized and redeployed for higher productivity. Companies are also looking for new avenues to plan and control their operations much better than they were managed earlier. The process featured agility to react and be appropriate to changes rather than rigid and preplanned activities. The supply chain is a set of activities that include ordering and receiving raw materials, manufacturing products, and distributing and delivering products to customers. All these functions must operate together to bring optimal efficiency. Coordinating these multiple functions across the enterprise should ensure a rapid and quality supply chain response.

Supply-Chain Management Functions

The three main levels of supply chain management are strategic, tactical, and operational. The amount of time that each decision takes and the level of details involved define each stage. The strategic level focuses on big-picture questions like how to source products and where to deploy manufacturing. The tactical level of operations management deals with short-term concerns that have an impact on production, such as forecasting and scheduling. The operational level, meanwhile, deals with more long-term concerns that involve the wider deployment of resources, like inventory management and scheduling.

FIGURE 1
Supply-Chain Management Function



SCOR & SCPR APPROACHES

The SCOR model is a cross-industry framework for measuring and improving enterprise-wide supply chain performance. SCOR is structured in four levels, based on a plan, source, make, and deliver framework. The SCOR model can be used to assess and improve supply chain operations in any organization or industry (Stewart, 1997). SCOR is the result of work by 70 global manufacturers to develop standard process definitions, terminology and metrics. SCOR enables companies to compare themselves to others, anticipate future applications and ensure their fitness for purposes in relation to the needs of manufacturers. The supply-chain process reference model (SCPR) is the logical extension of business process reengineering and other process improvement efforts.

NEW PARADIGM SHIFT

Businesses have had to adapt to a lot of change in the supply chain recently. This is because of the Covid-19 pandemic, which has led to the rise of quick commerce. Quick commerce is a business model where goods and services are delivered within 10-30 minutes of being ordered. E-commerce has been on the rise for a while now, but it has really taken off in the last few years because of things

like “Cash on Delivery” and, more recently, the pandemic. E-shopping offers various benefits to customers. Some of these are faster and flexible buying processes with no requirement of travelling to a shop, detailed and systematic listing of products, ability to compare costs and availability of several payment modes. For sellers, it offers an affordable advertising avenue, provides a large customer base as the internet has penetrated the length & breadth of this country, and better inventory management.

A big gap between ordering and delivery was the time lag it took to fulfil orders. This lag was a major inconvenience, especially in respect of perishable goods like groceries or items required for immediate use. Due to this shortfall, customers often preferred to go to an offline shop and pick up items they require quickly.

The ‘quick commerce’ concept arose to bridge this gap so that customers could be provided with great quality items in the shortest possible time.

Quick commerce is a business model that brands are adopting to make visible and significant forays in consumer homes by improving the shopping experience for customers. This unique business model promises the delivery of goods and services in under 2 hours.

WHY THE BIG PLAYERS ARE NOW ON THE FORAY

The market for quick commerce has become a crucial differentiator which has propelled brands into higher acceptance by customers. Deliveries which could take days are now completed in a matter of minutes. Advances in technologies coupled with the sharpening in the quality of the last mile delivery systems have allowed brands to strengthen their customer acquisitions further.

CHALLENGES OF INTEGRATED SUPPLY CHAIN MANAGEMENT IN THE CURRENT SCENARIO

Certain challenges in developing an efficient supply chain for these operations exist. Orders of these kinds are usually small value orders and hence costs for customer acquisition, customer retention, and delivery cannot be too high. The perishable nature of most of these items makes it necessary to develop a sturdy supply chain from farm to fork. Costs can only be minimized by direct farm sourcing, excellent razor-sharp supply chain management, accurate demand forecasts and timely last mile delivery. An amalgamation of these areas can provide brands with substantial profit margins if handled correctly. Therefore, brands invest

heavily in these structures to increase their brand retention values. It is difficult to keep customers loyal due to the increased cutthroat competition with many players in the market.

The brands improve their supply chains to improve their inventory management systems. They use resources like dark stores to minimize real estate costs and optimize deliveries in high-demand locations. Dark stores are stores which need not have expensive storefronts. To tighten and streamline supply chains, sellers have shifted focus from traditional warehouses on the outskirts to micro-warehouses near the delivery point inside the city with a stock of high-demand items. They are commonly known as 'Dark Stores'. Goods are stocked as per demand, resulting in shorter storage cycles. Companies use data insights to predict future trends in demand and proportionately source fresh produce to minimize wastage and satisfy customer demand efficiently. This works particularly well for products like groceries which are required to remain as fresh as possible.

Executing on-demand delivery is an operationally and technically complex endeavour. Consumer e-commerce today is largely driven by price, quality and convenience: great deals on optimum quality products with

timely deliveries.

CONCLUSION

As an extension of the supply chain, the quick commerce sector in India, which is currently at a market size of \$700 million and is likely to grow exponentially at 15 per cent to reach a \$5.5 billion market value by 2025, is here to stay as on demand deliveries have now become the norm, rather than an occasional requirement. Customers have benefited from lower costs and swift order fulfilments with optimum quality products; however, the mechanisms to enable this business model have given benefits to sellers as well by using cutting-edge technologies for inventory management to be able to track, manage and deliver products in real-time, thus reducing costs and expensive storage spaces.

The next few years are going to be rough for anyone trying to establish a new e-commerce platform. With so many platforms already in existence and more springing up every day, the competition is only going to get fiercer. The platforms that are likely to survive are the ones that customers already know and trust, the ones with a strong and reliable behind-the-scenes supply chain, or the ones with a lot of financial backing. **MA**

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RESHAPING SUPPLY CHAIN STRATEGIES IN THE MEN'S APPAREL INDUSTRY, POST COVID '19

Abstract

Today's world is a VUCA (Volatility, Uncertainty, Complexity, Ambiguity) world where the environment keeps changing all the time. As rightly said by Charles Darwin: "It is not the most intellectual of the species that survives; it is not the strongest that survives; but the species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself". This saying is also applicable to corporates. Successful are the companies that learn to adapt as per the changes in the business environment.

COVID-19 pandemic had been most the recent VUCA event that the world has faced. This pandemic has strikingly disrupted the global economic system. It has compelled corporates to relook into their supply chain practices.

The aim of this article is to study and examine the changes that occurred in the Supply Chain Strategies of the Lifestyle Apparel Industry post-COVID '19. This article is exploratory in nature and draws data from primary and secondary sources. In order to collect the relevant primary data, a sample survey was carried out at various apparel retailers.



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INTRODUCTION

Fashion and textile industry is estimated at around US\$ 100 billion and is expected to reach US\$ 190 billion by FY 2026. By providing an employment to around 45 million people directly and around 100 million people in associated sectors, this becomes the second largest employer in India, after agriculture. It is the second-largest exporter of textiles and apparel in the world, with US\$44.4 billion in exports during the fiscal year 2022.



Source: www.statista.com

India is the world's second largest producer of fibre, including cotton, silk, and wool. Some of the foreign textile companies that have invested in India include Rieter, Monti, CMT, E-land, Nisshinbo, Marks & Spencer, Zara, Benetton, and Levi's. The domestic apparel and textile industry in India contributes 2 per cent to the country's GDP and 7 per cent of industry output in value terms. Textile, apparel, and handicrafts account for 11.4 per cent of India's total exports in 2020-21. India accounts for 4 per cent of global textile and apparel trade. India is the world's sixth largest exporter of textiles and apparel.

Out of the total apparel market in India, men's apparel makes up 41 per cent, women's apparel 38 per cent, and kids wear 21 per cent. This sector has undergone a lot of changes recently, especially as a result of global sourcing, intense price competition, impact of pandemic and supply chain disruption. This industry is characterized with short product lifecycles, high volatility, little predictability, and a large proportion of impulsive purchases. Due to a fluctuating market and changing fashion trends, the demand of customer fluctuates quickly, which leads to increasing complexity for supply chain professionals in this industry.

LITERATURE REVIEW

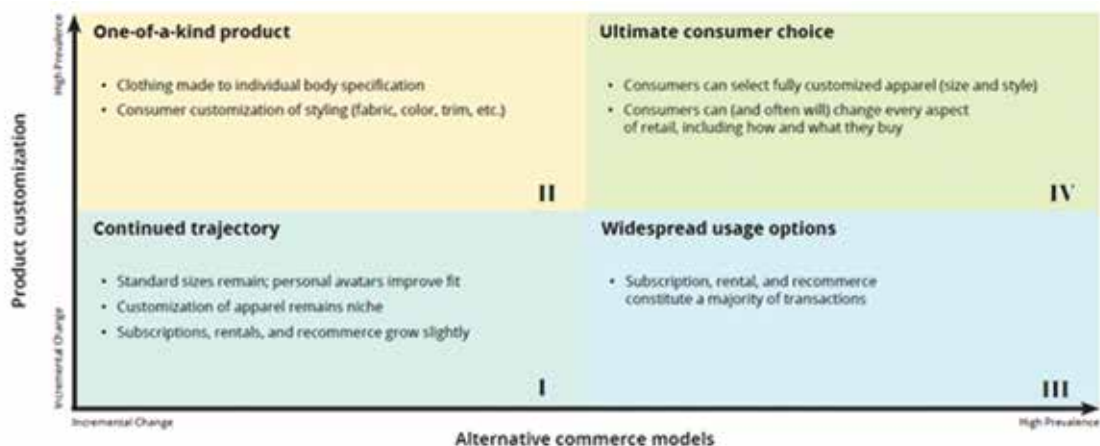
1. Customer satisfaction and

delight is essential to survive in a cutthroat market, and it can only be attained by promptly attending to customers' requirements. Hoffman and Mehra (2000); Harries et al. (1999); Sparks and Wagner (2003) came up with the concept called 'Efficient Consumer Response (ECR)', as a supply chain strategy in certain industries.

- Hussain et al., (2011) cited that "Firms try to develop their *comparative advantages by adopting specific strategies to attract retail customers*. They compete in the market on the basis of different strategic options as price/cost, quality, delivery speed, delivery reliability, customer service, flexibility, product design".
- Zhang & Wang (2011) explained that Supply chain reliability and ability to do with risks are key research fields in supply chain management. The authors empirically explain the relations among information technology, supply chain robustness, and supply chain performance.
- Shamshuzzaman, Hossain & Hassan (2010), explained the importance of **supply chain performance evaluation** in industries. They evaluated

current practices of companies against world class practices.

- Patil A.N (2014) quoted that a 'Good supplier base' is an important part of strategies in order to gain competitive advantage for organizations. "Choosing the right supplier plays an important role in making organizations profitable and keeping them focused on their potential strengths. Therefore, evaluating the quality of suppliers carefully is vital for any company".
- Based on a study, Deloitte Research (2020) have forecasted the following four trends that could transform the apparel Industry by 2030 : (a) Continued trajectory where the consumers will return to the earlier consumption ways and product customization would grow slowly; (b) One-of-a-kind-product where the retailers would offer customized clothing; (c) Widespread usage options where customized products and other commerce models will evolve and (d) Ultimate consumer choice where customized products and other commerce models would dominate the industry.



Source: Deloitte Research

RESEARCH METHODOLOGY

This research study is based on primary and secondary data. The study is limited to apparel industry post COVID '19. This is an exploratory research design. The sampling procedure used for data collection is Convenience & Snow ball sampling. The sample size is 55 Apparel retailers. The sample elements are Mumbai and Thane

based apparel retailers dealing in men's apparel.

OBJECTIVES OF THE STUDY

- ⊙ To study the changes in supply chain strategies of lifestyle apparel industry post COVID '19.
- ⊙ To study the trends that could transform the apparel Industry.

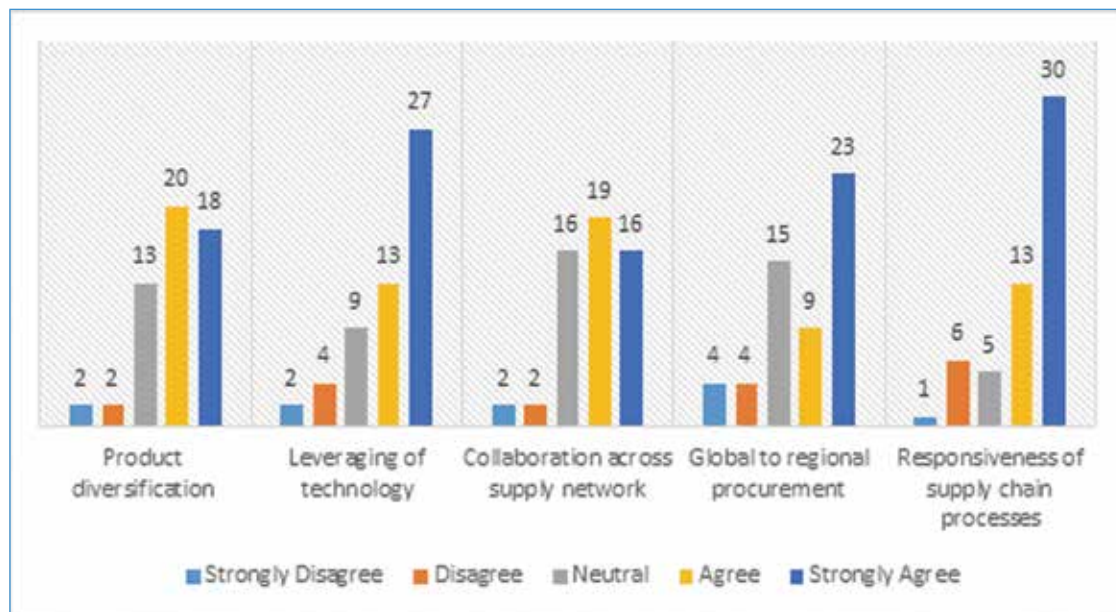
DATA COLLECTION

As a part of this study, we reached out to around 55 apparel retailers (on a pilot basis) and requested them to fill the questionnaires. These questionnaires related to various changes in the supply chain strategies that the retailers have experienced post COVID-19 pandemic. The responses received from these retailers are tabulated hereunder:

Research Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There has been increased product diversification in your product range	2	2	13	20	18
There has been increased leveraging of technology	2	4	9	13	27
There has been increase in collaboration across supply network	2	2	16	19	16
There has been a purposeful shift from global procurement to regional	4	4	15	9	23
There has been increase in the responsiveness of supply chain processes	1	6	5	13	30

(Source: Primary Data)

The responses can be presented in graphical format as follows:



DATA ANALYSIS & INTERPRETATION

- ⊙ From the above analysis it can be seen that around 69 per cent of retailers have increased the product diversification. Before COVID they used to deal in limited products as a part of their product range. Post the

COVID '19, these retailers have started adding variety of products into their assortment. Their product ranges from not just the formal and casual wear but also includes comfort wear and inner wear.

- ⊙ Around 73 per cent of the retailers feel that there has

been increased leveraging of technology. With the shift of customers preference to shop online, many retailers have started tying up with e-commerce models. Big retailers have leveraged on technology by coming up with their shopping websites and

apps to ensure they don't miss the customers who prefer to buy online.

- ⊙ Around 64 per cent of the retailers have responded positively that they have seen increase in collaboration across supply network. These two years of pandemic has enforced the retailers to comprehend the importance of all the partners in their value chain like suppliers, intermediaries, logistics and warehousing partners, etc. Majority of the retailers agree that supply chain collaboration is the key to their success in the long run.
- ⊙ Around 58 per cent retailers have shifted their procurement from global level to local level. There had been mixed reviews received from the retailers. Many of them feel that they cannot be fully dependent on global suppliers as there is a risk involved. However, some retailers still believe that not all the material can be sourced locally at the same competitive prices offered globally.
- ⊙ Around 78 per cent of the retailers believe that there has been an increase in the responsiveness of their supply chain processes. The retailers feel that it is imperative for them to reduce the lead times and be more responsive to all their stakeholders, including customers.

CONCLUSION AND RECOMMENDATIONS

Indian economy had been hit hard by COVID-19 crisis. Many sectors had been badly affected, and apparel industry is not an exception. This led to the disruption in the supply chain practices. From the above data analysis, it can be seen that firms in the apparel industry are seriously relooking into their existing supply

Many retailers have launched eco-friendly clothes for their customers. They adopt practices to produce clothes that leave little impact on the environment

chain practices and adapting as per the market requirements. Some of the common themes that came up as a part of my analysis are as follows:

1. Customized apparel

Customised clothing is fast growing in India. Here the customers get to choose the fabric, design, fit, colour etc. from the many options of samples. Brands have introduced certain initiatives like fully customized clothes as per customer's size, customized designs, personalized printing on custom-made clothes, 3D printing, personalized monogram etc.

2. Sustainability

Many retailers have launched eco-friendly clothes for their customers. They adopt practices to produce clothes that leave little impact on the environment. In fact, customers are also willing to pay higher for eco-friendly clothes. Some manufacturers have started producing clothes out of ocean plastic, thereby shifting towards eco-friendly clothing. Many players like Zara, Levi's, H&M have introduced recycled clothes initiative.

3. Hybrid Modes

Though the pandemic has

forced many customers to shift from shopping apparel offline to online, the high street stores still hold a place in their customer's hearts. In order to attract customers, the retailers are supposed to have both the offline and the online presence. The retailers need to ensure that the offline stores are more experience driven (say Shoppers Stop has personal shopper concept, in which the First Citizen customers can opt to take the help of a personal shopper while shopping in the store, making their shopping experiential).

4. Digitalization

Retailers believe that in order to survive they need to be more innovative, collaborative and resilient. Apart from e-commerce platform they need to provide in store experience to the customers. They need to introduced 3D design, Virtual Reality, Smart Robots, Magic Mirrors, etc.

5. Substitute commerce models

Some of the unconventional commerce models that would drive the apparel industry are as follows:

- ⊙ **Re-commerce:** Also known as reverse commerce, re-commerce means the process reselling earlier owned apparel. Here consumers would get an economical and sustainable way of buying clothes instead of purchasing fully new apparel.
- ⊙ **Subscriptions:** Indian customers had been subscribing to services like newspapers, magazines, grocery items, daily essentials, grooming products, etc. Recently

there has been the subscription model introduced in apparel sector as well.

- ◎ **Rentals:** The new model of apparel retailing would be where the rental clothing would be the new trend in this industry. Customers would prefer renting clothes, which are pocket friendly and customers don't have to repeat the same apparel for various occasions. **IMA**

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LAST MILE LOGISTICS IN A VUCA WORLD: A STUDY OF GOA'S FOOD DELIVERY APP SERVICE

Abstract

The business world has changed intensely over recent few eras and we now live in a society where change can be unanticipated and abrupt. Food delivery apps have been a boon for customers during the pandemic owing to a number of benefits offered like the availability of a variety of food options, doorstep delivery, shorter wait times, value for money etc. During this study the leading food delivery service providers in Goa were Swiggy and Zomato. A total of 232 valid questionnaires were collected using convenience sampling and empirically tested via SPSS 21. Viewing the continuous growth and development of this service during the pandemic this study aimed to examine the supply chain management of food delivery app services in Goa while analyzing the customer behavior towards the same.

1. INTRODUCTION

Supply chain management in the food delivery industry is very crucial as timing plays a vital role for productivity with high quality and low cost (Naitik M Patel & Vivek A Deshpande, 2015)(Zhong et al., 2017). COVID-19 pandemic and home-bound lifestyle have altered the way people dine and enjoy restaurant food, making way for an innovative world of food agility (Khandelwal Krishna, 2021). A sense of certainty and familiarity that people were used to, has now been replaced with a sense of commotion. The importance of global supply chain sustainability has been brought to the forefront as a result of the COVID-19 pandemic (Khandelwal Krishna, 2021)(Zhong et al., 2017). This kind of environment can often be described as “VUCA” which is an acronym for Volatile, Uncertain, Complex, and Ambiguous”(Mind Tools Team, n.d.).

Masses of people across the world have encountered stages of lockdown and have been reliant on the “last mile” of food supply networks, occasionally for lengthy eras of time (Lin et al., 2022). Glancing back to 2020 there is no hesitation that we reside in a VUCA world. Whether your business is global or local, the importance of the supply chain management in navigating a VUCA world can't be taken too lightly(Broxton Mark, 2016) (Zhong et al., 2017). VUCA demands reconsidering strategies on how to function cost-effectively in a changing environment. Customers' mounting expectations have only added to the trials of the food service industry. Speed of delivery is of



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utmost significance coupled with good quality of meals delivered. Under the enormous pressure placed on delivery personals, as well as at the technology fore front, the food delivery system was able to gauge up rapidly to provide emergency food delivery swiftly and very resourcefully (Yinan Lin et al., 2022) (Hong et al., 2021). The main trial thus remains with the lessening of excessive costs sustained to progress logistics and technology which, in turn, produce (Yinan Lin et al., 2022) high order volumes (2022 Televisory, 2018).

Goa being the smallest State in India does not face the issue of heavy traffic. This makes the supply chain management more challenging by demanding low latency on the app's end. Thus, it is very essential that the food delivery app, the restaurant and the delivery rider work in unison with each other to achieve timely, cost effective and safe delivery of the product i.e. the food as well as gaining the long term trust and goodwill of the customer (Zhong et al., 2017).

2. RESEARCH METHODOLOGY

2.1 Research Aim

The aim of this study was to understand the supply chain management of food delivery app. services in Goa while investigating the customer behavior towards the same during the Covid-19 pandemic.

2.2 Research Gap

It was found that there is minuscule to no research conducted in this area in the State of Goa. To fill this gap, this research proposed to study the functionality of food delivery apps in Goa and study the customer behavior towards the same during the Covid-19 pandemic.

2.3 Sources of Data Collection

Primary Research: Data was collected through a structured questionnaire from the respondents selected through convenience sampling technique.

Secondary Research: This data was acquired from websites, research papers and e-articles.

2.4 Objectives of The Study

1. To examine the supply chain management of food delivery app. services in Goa.
2. To investigate the customer behavior towards food delivery app. services in Goa during the Covid-19 pandemic.

3. LITERATURE REVIEW

Online food delivery apps. refer to internet-based food ordering and delivery arrangements that connect customers with registered restaurants via their websites or mobile apps. (Puneet Kaur et al., 2021) (Hong et al.,

2021). Food delivery apps. as an evolving online-to-offline technology, provide a network between supply enterprises and customers by integrating online orders and offline delivery services (Arghya Ray et al., 2019) (Hong et al., 2021).

Numerous literatures have affirmed that trust is one of the most crucial factors positively affecting customer's intent to use food delivery apps (Arghya Ray & Pradip Kumar Bala, 2021; Meehee Cho et al., 2019) (Yiyang Zhao & Fernando Bacao, 2020) (Hong et al., 2021). Food delivery apps allow consumers to store payment and prior order details for efficient checkout, enabling customers to save time (Akshat Bansal, 2019; Statista EServices Report 2020., 2020) as well as avoiding the time spent travelling to a restaurant and waiting in line (Hong et al., 2021). In the food delivery setting, price saving promotions often serve as effective marketing tools as confirmed by Puneet Kaur et al., (2021) leading to customer's constant usage of this service.

Capgemini Research Institute, (2019), discoursed that three-quarters of shoppers are willing to spend more if they are content with the delivery services. They further added that to grasp the noteworthy chance while handling margin risk, companies need an all-inclusive strategy. Such a technique requires adequate clever technologies, the correct operating model for delivery, innovative tactics to manpower, and a readiness to collaborate with consumers. With those four attributes in line, corporations can solve the profitability puzzle of last-mile delivery.

4. CONCEPTUAL FRAMEWORK

4.1 Supply Chain Management of Food Delivery App Services in Goa.

4.1.1 Functionality

When a customer places an order the restaurant get an intimation on its system through the restaurant partner app. (Fig.1,2). It has an option to accept or reject the order. Normally, restaurants decline orders when there is an overload. After accepting the order a notification is sent to Swiggy's/Zomato's main center. Data analytics like the traffic conditions, predict the preparation time for the restaurants by analysing the number of orders, location of the delivery riders and thus providing customers with accurate delivery time of their order.



Fig.1



Fig.2

The main office app. then assigns a delivery rider to pick up the order from the restaurant and deliver it to the customer along with the phone number and address. The delivery personnel also have a separate app. on their smartphones (Fig.3,4), which gives them notifications

about the restaurant they have to pick the order from along with the customer's location as well as providing details to the main office about the delivery rider's whereabouts.



Fig.3



Fig.4

Delivery riders are assigned a particular location and it appears as a map (Fig.5). The delivery riders need not visit the office on a daily basis; all they have to do is log in to the app, click start duty and be present at the location assigned to them. Once their duty starts order notifications appear and they set out to perform their duties.

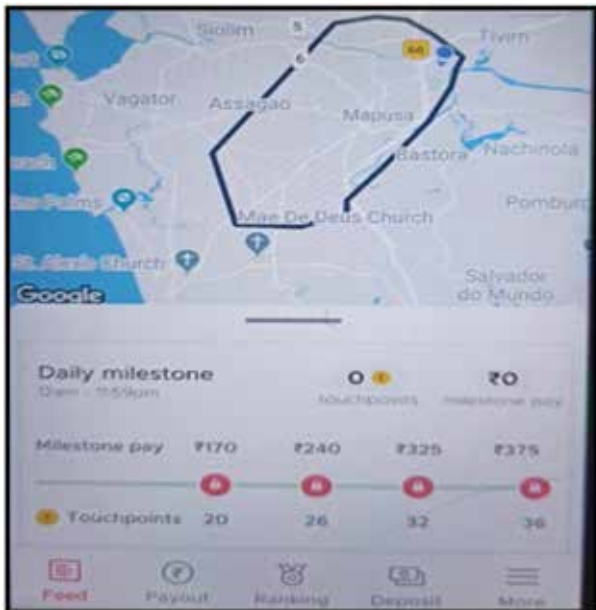


Fig.5 Delivery Map

The customer on the other hand gets details about the estimated time of arrival in addition to the details of the delivery rider (Fig.6,7). During the pandemic these apps would also show the temperature of the delivery riders as well as their vaccination status.



Fig.6 Swiggy



Fig.7 Zomato

Once the food is delivered the delivery rider sends a confirmation to the app. office and the customer gets a notification to provide feedback and rate the delivery process (Fig.8,9) which helps the manager to analyse for corrective action in case of negative feedback.

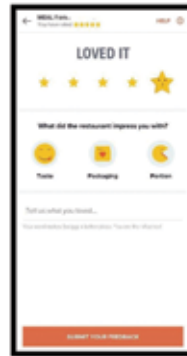


Fig.8 Swiggy Restaurant Rating

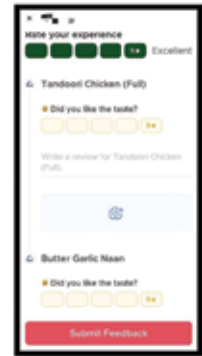


Fig.9 Zomato Restaurant Rating

Finally, the customer's money is collected and entered on the app. in the form of floating cash (Fig.10) and at the end of the day it is sent to the main office via Google pay.

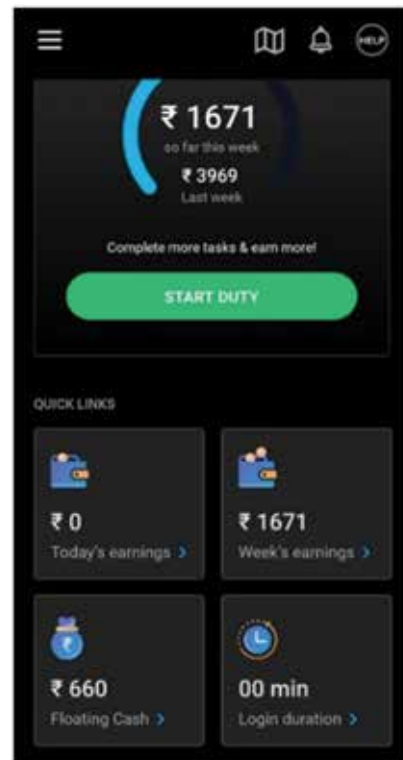


Fig.10 Floating Cash

In case the delivery rider is unable to deliver the food to the customer due to the customer not responding or improper location, the food is given to the app. office and when that customer orders the next time a fine has to be borne by him.

4.1.2 Discounts

SWIGGY AND ZOMATO WITH REGULAR DISCOUNTS



Fig.11 Swiggy Before



Fig.12 Swiggy After

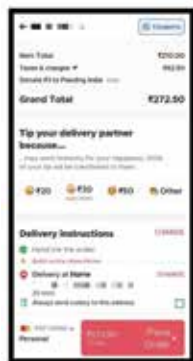


Fig.13 Zomato Before

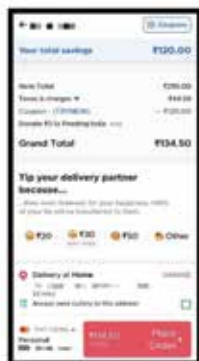


Fig.14 Zomato After

From the above attached bills, we can ascertain that before the discount the cost comes to Rs. 273 but after using a coupon it gets reduced to Rs. 169 in the case of Swiggy (Fig. 11,12). In the case of Zomato (Fig. 12,13) before the discount the cost comes to Rs. 272 but after using a coupon it gets reduced to Rs. 134. The taxes and delivery fee were same on both platforms. These coupons are generally given on crossing a particular amount, trying a new restaurant, using of certain e-payment modes and also on buying from a restaurant after an elapsed period of time.

SWIGGY AND ZOMATO WITH PREMIUM SUBSCRIPTION (SWIGGY ONE AND ZOMATO PROPLUS)



Fig.15 Swiggy One perks



Fig.16 Swiggy One perks



Fig.17 Zomato ProPlus perks

Swiggy One and Zomato ProPlus subscription offer free trials for first time users of this feature. This feature offers consumers free delivery, extra discounts (Fig.15,16,17) and also “buy one get one” offers (Fig.16). It is ideal for those who order frequently as it ensures monetary savings on the items purchased.

Note: The images used above are from screenshots of the food apps. and are solely used for educational purposes as permitted under section 52 of the Copyright Act 1957.

5. DATA ANALYSIS

Consumer Behavior towards Food Delivery Apps during the Covid-19 Pandemic.



Fig.18

About 69.8 per cent users found food delivery apps. to be easy to use given its user-friendly interface. Many users reported the app. logistics are clear and understandable making it hassle-free for them while accessing the same. (Fig.18)

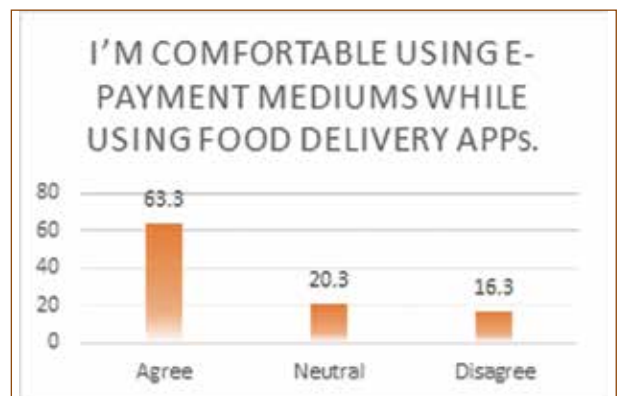


Fig.19

Due to the pandemic and the fear of catching the virus many people opted for e-payment mediums while making transactions thus avoiding contact through touching of hands. 63.3 per cent have shown their trust in food delivery apps. by using various e-payment mediums like google pay, debit/credit cards etc. to pay for the food purchased thus signifying their confidence in the authenticity of the

app. (Fig.19)



Fig.20

The above chart shows that around 79 per cent of the respondents affirmed that food delivery apps. provided them with time saving benefits. It helped them save time which would have been spent on travelling or waiting in line for a table. Thus, this enabled them to accomplish other important tasks and have a proper time estimate of the delivery thanks to the order tracking feature using GPS. (Fig.20)

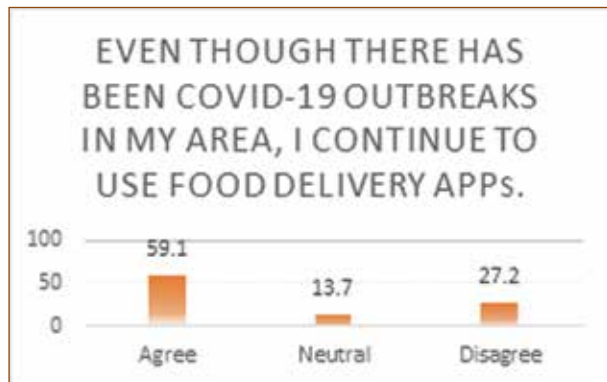


Fig.21

Though the pandemic caused a lot of inconveniences to the general public. 59.1 per cent reported that the food delivery app. service was a boon to them in these tough times. Food delivery apps. took utmost precaution by vaccinating their delivery riders and adopting appropriate sanitation measures. This move gained the trust of many consumers who could order food, groceries and other essentials from the safety and convenience of their homes. (Fig.21)

6. CONCLUSION

Customers have found food delivery apps. to provide better value for money owing to its unique exclusive features. Due to the convenience, time saving benefits, price saving benefits, hygiene precautions etc. majority of the respondents were assertive about using food delivery

Today, logistics is the sole touchpoint between a consumer and a brand in this VUCA world

apps. in the future. The efficient customer care service that offers swift refunds in case of any mishap with the order is also one of the reasons for gaining the trust and loyalty of these customers. The last mile delivery process is most crucial for customer fulfilment and endurance of business in terms of the delivery provider, the restaurant and the food delivery personnel. Today, logistics is the sole touchpoint between a consumer and a brand in this VUCA world. Hence, making the 'last mile' extremely significant. The 'last mile' experience is therefore, tremendously important and if given due significance will churn out more and more delighted consumers which will in turn surge profitability and goodwill of the business. **MA**

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REDESIGNING SUPPLYING CHAIN FOR SUSTAINED GROWTH IN A DISRUPTIVE WORLD: THE CASE OF HOUSING AND REAL ESTATE SECTOR IN DIGITAL INDIA

Abstract

Supply Chain (SC) has gained popularity in this globalized era, and is especially relevant today to tide over the slump caused due to Covid pandemic. SC is now a key economic infrastructure too and businesses remodel their SCs to be future-ready. Focusing on housing and real estate sector, this study seeks to design the SC strategy that can quickly recover this sector and hence the whole economy, given its vast linkage effects.

1. INTRODUCTION

Supply chain management (SCM) is the management of all supply chain assets and flows (financial, information and product / materials) with the vital object of creating optimal surplus or total value (Chopra, S. and Meindl, P.,2010)[1]. The growing needs of a supply chain (SC) are sought to be addressed by SCM. Covid-19 pandemic having forced businesses to see beyond the way usually being followed, disrupted SC is now a crucial issue for most businesses. ICT is now a key tool to correct disrupted SCs.

About 94 per cent of the Fortune 1000 companies worldwide have disrupted SCs; and nearly 75 per cent of them face negative effects on their operations, thus forcing 55 per cent of them to cut their growth forecasts as per a report by Accenture. Putting in place a robust SC is vital today as SC itself is a key infrastructure, one that ensures smooth operations at the firm, sectoral and even at the national levels. The world witnessed its crucial need during the Covid pandemic time when agile SCs were a global necessity (eg. food, medicines).

2. SIGNIFICANCE OF THE STUDY

As the global economy struggles to gain normalcy since the shock of Covid-19, setting up robust SCs by solving the SC disruptions is essential today. Setting up SC is not an easy task as it demands spending huge amounts of



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cost and time. It could be a failure too unless due study is done before designing SCs. Building SCs needs a perfect blend of ICT and human resource (HR). Finding such a blend is crucial as too much dependence of either is not advisable. ICT is now a sustainability tool everywhere; from agriculture (Gupta and Gupta, 2002) [7] to banking (Joju et. al) [10-13], and so on.

From a macroeconomic view of Indian economy, housing and real estate sector has key significance, as this sector can kick-start many other sectors due to its vast linkages, a creator of huge employment opportunities (Manoj, 2004) [15]. It is a national priority as 'Affordable Housing for All by 2022' is India's national housing goal, since 2015. As the actual results attained vis-à-vis target being half, the tenor of national housing goal for 2022, has been extended till 2024. SC disruptions in this sector are to be corrected for its sustained growth and also that of the whole economy, since a global recession is looming large. (Word Bank Group, 2022) [3].

3. OBJECTIVES AND METHODOLOGY

The objectives are: (i) to study the need for promotion housing development in India; (ii) design the SCM strategy for the housing and real estate sector that can ensure its sustainability by correcting SC disruptions. This study is of descriptive-analytical nature and is exploratory too. Data from authentic secondary sources like the IMF, NHB, RBI, etc. were used for analysis and discussion.

4. INDIA IN THE GLOBAL HOUSING SCENARIO

Even in the context of the global pandemic of Covid-19 the global housing scenario has been resilient. IMF data on house prices for 85 Quarters (2000-Q1 to 2021-Q1), show a rising trend. (IMF)[2]. (Figure I). Ability of this sector to resist global shocks like Covid-19 must be duly used; as a global recession is imminent. (World Bank Group, 2022).[3].

FIGURE I: GLOBAL HOUSE PRICES TILL 2021Q1.



Source: IMF data (www.imf.org) [2]

As of Q1-2021, house prices have been rising at the global level. Only 10 nations (including India) out of the total 58 nations have negative growth rates as of June 2021. The highest rise was that of New Zealand. Philippines had the lowest (negative) rank. India is only in the fourth position from the bottom. So, concerted efforts are needed to makeup Indian housing market. (Figure II).

FIGURE II: HOUSE PRICES OF NATIONS (2021).



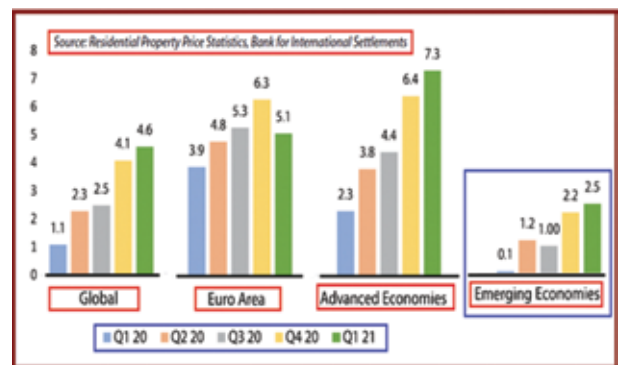
Source: IMF data (www.imf.org) [2]

Despite a rising trend in global house prices (Figure I), its growth rate has fallen now signaling the start of a global recession. House prices grew by 6.2 per cent in 2021, but in Q1-2022 it has grown by 4.7 percent only. (World Bank, Sept. 2022).[3]

5. NEED FOR HOUSING PROMOTION IN INDIA

As already noted, globally house prices were rising even in the pandemic days (Figure I). But, emerging economies (India too) had slow (or even negative) growth as is evident from Figure III. (NHB,2022) [4], p.90

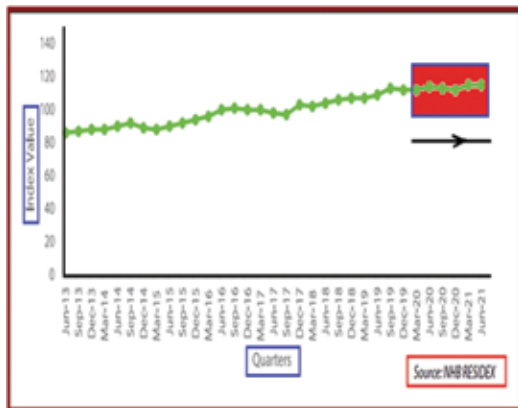
FIGURE III: HOUSE PRICES (Q1-20 TO Q1-21).



Source: NHB, Trend & Progress 2021. [4]

In India, the house prices have been rather stagnant since the pandemic period. This stagnancy needs to be corrected and made positive. (NHB, 2022).[4].(Figure IV).

FIGURE IV: HOUSE PRICES-INDIA (2013-2021)



Source: NHB, *Trend & Progress 2021*. [4]

As housing sector has wide linkage, both forward and backward, with about 350 other industries, especially 21 closely linked ones, like, Cement, Steel etc. (Figure V) [5]

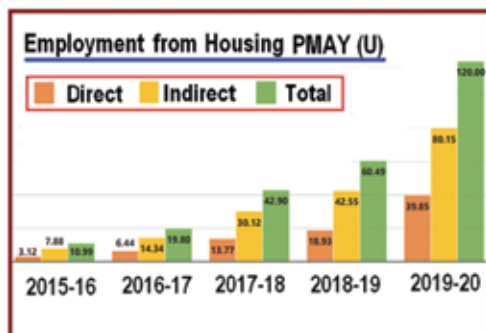
FIGURE V: LINKAGES OF HOUSING.



Source: GOI (2021), MHUA. [5]

Close linkage effects of housing with 21 key sectors enables housing investments to create substantial and growing levels of direct and indirect employment every year. The case of PMAY(U) is as in Figure VI.[4]

FIGURE VI: EMPLOYMENT IN HOUSING SECTOR



.Source: GOI (2021), MHUA. [5]

The policy of promoting housing by the GOI still continues, its Budget 2022-2023 (Feb. 2022) is no exception. The progress of housing development being slow in India; more focus is needed for housing promotion. SCM redesign is a vital requisite to this end.

6. SC REDESIGN IN INDIAN HOUSING SECTOR

As already noted a redesign of the SCs in Indian housing and real estate sector is vital due to its slow growth, attaining the national housing goal 2022 at least belatedly by 2024 etc. The pandemic has taught the businesses about the utmost need for efficiency and agility for their survival and growth. To attain this, they may proceed as follows:

- ⊙ Businesses must ensure effective and continuous communication at every SC level. Coordination and cooperation from the suppliers (e.g. materials for the construction of houses, flats etc.) and customers (e.g. home loan borrowers), so as to enhance their competitiveness.
- ⊙ For better risk management and greater flexibility of SCs, a ‘Scenario’ approach be used so as to streamline the processes and to optimise the returns. Also, localising the SC would help to shorten it and to enhance efficiency, like, sourcing the housing inputs from the locality. It is more eco-friendly too.
- ⊙ Use of technology, like, ICT integration is crucial for competitiveness in terms of cost, customer service, and quality. It enables evaluation of performance as well as real time tracking and visibility.
- ⊙ A skilled and agile human resource (work force) is essential in housing and allied sectors like real estate. They must exactly fit into the SCM framework of the respective housing developer.

A robust SCM can ensure a smoother, flexible and competitive business model for housing development business as follows: (i) managing the properties and assets (like, housing units completed and also those under construction, plant and equipment etc. (ii) forecasting and planning, (iii) management of files and documentation, (iv) sourcing and procurement including vendor management, (v) managing partners, franchises, sites etc., (vi) development of projects and property, (vii) Logistics and Warehousing, and lastly (viii) regulatory compliances (like, RERA and such other Acts relating to housing).

7. CONCLUDING REMARKS

The global pandemic has taught businesses worldwide to be more vigilant and to redesign their SCs for better sustainability. Adoption of ICT and modern technologies like artificial intelligence (AI) and machine learning (ML) makes SCs well equipped to face exceptions and enhances transparency. As suggested, localisation of SC is vital to respond to and communicate efficiently to the stakeholders

Housing and real estate sector has key significance, as this sector can kick-start many other sectors due to its vast linkages

across the SC. The complex and uncertain environment demands utmost flexibility for the SCs, constant monitoring and evaluation. SC itself is a key infrastructure today. Its future lies in building a low asset network through careful research. Digitalization and also continuous innovation of business models form the key to SC redesign. The need for ICT adoption in today's *Digital India* gives another dimension to this. For the housing sector, Government should provide more incentives considering its macro-economic benefits. **MA**

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Q1. Earlier, selling price was determined by adding profit margin to cost. Nowadays selling price for a product is given by the market and cost control/efficiency determines margin.

In context of shares also, the share price is determined by broad market and the investor needs to use his skills to find out whether intrinsic value is less than that and then take his

investment decision.

A. Do you agree with this?

Ans: Markets pay and penalize investors for surprises. Stock price discovery has moved beyond annual reports and balance sheets. It's more of understanding crowd psychology and evaluating how much of a good or bad news is in the price. The determination of news being in the price is far more

important than understanding the news in isolation.

B. Would you say that determining intrinsic value involves cost study?

Ans: Stock price discovery is about profits. And if your costs are lower the profits will be higher. Cost analysis plays an important role in sectors which are commoditized or cyclical in nature. Some sectors where a low cost

producer gets an unbeatable advantage are metals, cement, shipping and to a large extent banking because companies can't charge more for their product or service. The low cost producer wins big and loses less when these businesses go through cyclical ups and downs.

C. Can we apply principles of costing such as fixed & variable costs and break even analysis for equity research?

Ans: Operating Leverage is one of the biggest triggers of exponential profit flow. And companies that have a high contribution margin (low variable cost structure) enjoy bigger operating leverage. Companies that have a low variable cost structure are the last to close down when the sector is passing through pain. This happens mostly in cyclical like cement, oil & gas or metals. When the external environment is gloomy the lowest cost producer with the lowest breakeven point is often the last man standing.

Q2. Which ratios do you rely on for decision making?

Ans: The RoE with the Du Pont analysis is the Gayatri mantra of stock market investing. It helps us understand how efficiently a company is using its capital. We also look at the Gross profit ratio, EBIDTA margin and the dividend payout ratio. We also look at the P/E ratio because stock analysis isn't just a beauty contest. One has to know the price that we pay for each unit of earnings.

Q3. Of these there must be some which are common across all industries? Can you elaborate on these and how important are these?

Ans: The Price to Earning or the P/E ratio is the most powerful of them all. Generally, P/E ratio is a function of how fast a company is growing its earnings. The P/E ratio is also dependent upon whether the company is a sector leader, dividend paying, generating free cash flow, large in size, if the shares are traded quite frequently and if it's a part of the Nifty or Sensex. Generally, a low P/E represents value but if it's a cyclical the low P/E indicates an earnings top off. No fixed rules here.

If there is one ratio that can be used across industries

We all pay for how much cash a business will earn over its lifetime. Investing is not a one size fits all but the level of free cash flow that a company

generates is pretty much a ratio that one can use to track most industries and sectors.

Q4. How do you extract lead indicators from macro numbers?

Ans: A high inflation suggests that the RBI will raise rates so companies in banking and financial services will not do well. Capital expenditure will be postponed and anything that is sold on EMI like (housing, auto and consumer electronics) will slow down. High inflation also attacks disposal income and hence discretionary expenditure like restaurants and movie halls take a hit. Similarly, when Govt. spends on rural areas tractors, farm equipments and pesticides do well.

Q5. FDI & FII-what is good and bad about each?

Ans: FDI is solid long term money. FII is unstable, volatile and hot money. FDI means that foreigners have both ownership and control of the Indian asset like Dell setting up an office in India. They don't buy and sell frequently. FII means that the foreigners have only ownership and no control. They have bought the shares with a speculative bent of mind. Whenever there is a global risk off these FII sell shares adding to violent movements both in the stock and foreign exchange markets.

Q6. How much influence do FII have in the markets today? Is it Waning?

Ans: The impact and influence of FIIs is immense. Their impact is twofold. When they sell stocks the market obviously falls but secondly the outflow of foreign exchange has a negative impact on the Dollar rupee parity which in return affects the stock market again. It's like a negative loop function. Of late, the importance of FIIs have come down because the domestic pool of our own retail investors has been growing quite rapidly.

Q7. How to determine intrinsic value of a share?

Ans: The intrinsic value of shares is the Net Present Value (NPV) of all its future cash flows discounted at an appropriate rate till eternity. Companies that grows fast have a higher intrinsic value than a company that grows slowly. The discounting rate is a function of interest rates. When interest rates go up the market generally declines and vice versa. Companies

that are expected to make more profits in the future (growth stocks) are more sensitive to interest rate movements.

Q8. How much would management quality contribute to this?

Ans: A good management guarantees longevity and execution. Longer the life span of a company higher the Net Present Value (NPV). Similarly, a company that can execute and grow well will have a higher intrinsic value.

Q9. What is the overall investment philosophy?

Ans: Very few people come to the stock market to get rich. Most come here to make pocket money. Our overall investment philosophy is to make such investments that change our balance sheet and not just our profit and loss account. We strive to achieve financial freedom through stock market investing.

Q10. What is the stock universe that you select from—for instance, do you focus on dividend-paying stocks, small-cap stocks, mid-cap stocks?

Ans: We don't like companies that pay too much dividend. We invest in listed stocks because we have surplus cash. Companies that give back dividends agree and accept that they have very little avenue for deploying their surplus cash. We like companies that grow revenue and earnings over time while using their capital quite efficiently. Small caps generally grow fast because they work on a lower base. However, the market cap should be viewed as a function of total market size in which the company operates.

Q11. What are the criteria for initial consideration of a stock? Are screens used to flag potential stocks? Are top-down factors—first focusing on the economy or industry and then looking for the stock—a consideration, or is a bottom-up approach used, focusing exclusively on individual companies?

Ans: Top down tells you about the tailwind and the market gives a higher P/E to companies that have a good tailwind. Anything that can identified for investment by a computer (screener) isn't worth investing. Stock picking is an art. It's more like painting than like physics. We like smaller capitalized companies, growing in a sector that is expanding with a large scale of opportunity, generating high RoE, run by a honest and ambitious management.

MA

DIGITAL TRANSFORMATION A PRISMATIC VIEW

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About the Book

Overwhelming speed and 'innovative' quality of technological developments are boldly disrupting business entities across industry sectors, touching lives of common people, and transforming their way of living life. Digital technologies like blockchain, AI, RPA, AR, VR, etc, are continuing to bring about foundational changes in a nation's economic and societal foundation. The present Industry 4.0 is a revolutionary era of digital technologies.

The ultimate objective of digital transformation is maximisation of value creations and minimisation of value destructions. Success in all these would accelerate sustainable growth and prosperity of humanity in an improved global environment. Remaining abreast of such technological developments is an imperative for every professional. This will help enduring with relevance, gain 'stragility' and attain abilities to contribute more for value creation. Readers would find this anthology of thirty-one articles useful to move ahead with knowledge and information in this fast-evolving era of digital transformations.

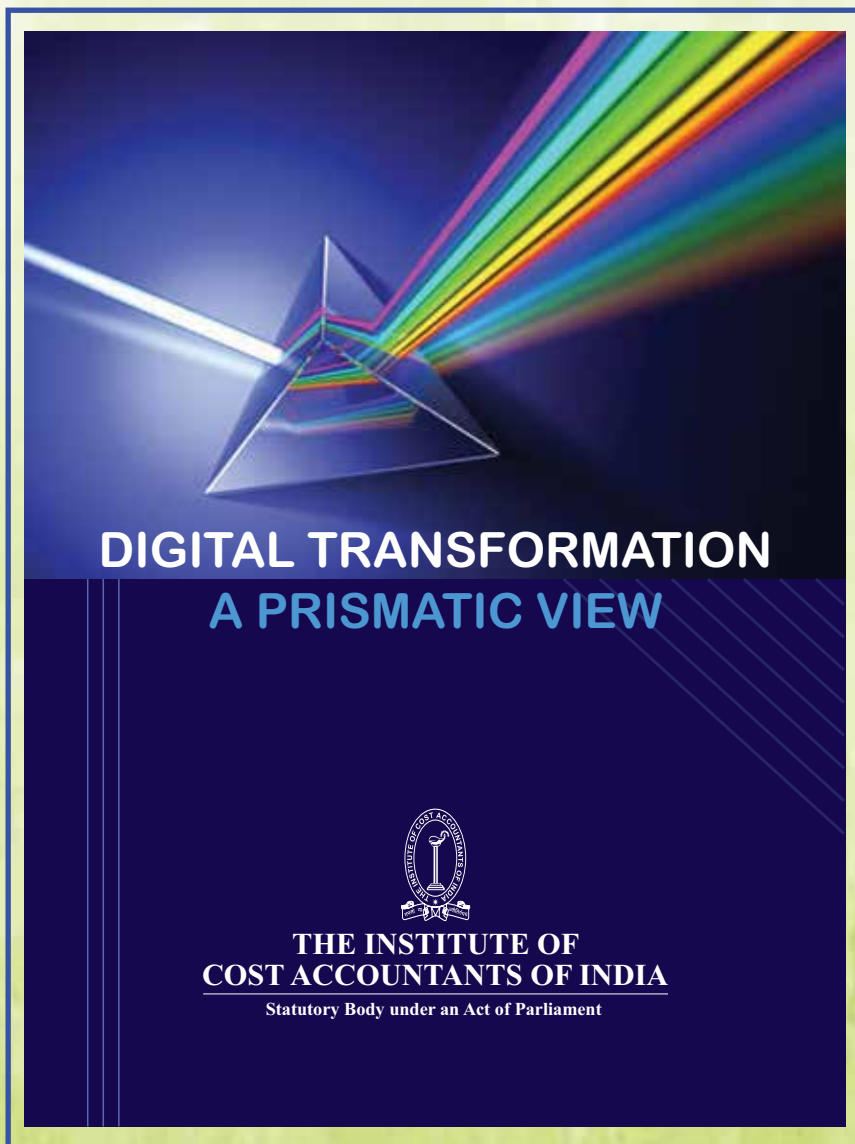
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WEB 3.0

EVOLUTION OF COMMUNICATION TECHNOLOGY TO Web3.0 FOR NextGen DIGITAL TRANSFORMATION



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Introduction

Communication is one of the major contributors to human civilisation. It is an overwhelming experience to conduct research on this subject which is so fundamental yet essential for daily life. It's methods and processes had metamorphosed from primitive to ancient to modern and to the present digital era. There were hundreds of improvisations in the preindustrial revolution 1.0 era, and inventions of technologies and their innovative applications in all four industrial revolutions. Thus, it continued to evolve with applications of technologies and passed through different media and modes yielding benefits to humanity.

In this ongoing decade web-based applications are going through its third major iteration to refine existing methods and meeting latent demands of business, government, and society. In the contemporary era of pervasive digital transformation, communication amongst groups of people, bonded by certain common purposes and interests, takes place in a defined network created by Blockchain synonymously known as distributed ledger technology.

Since the advent of computerised automation, including use of wire connected local area network, collectively the technology used to be called as information technology or IT. Thereafter came the revolution in telecommunication technology and computerisation got its much-needed accelerator. Now information and communication technologies are used as a combined phenomenon and inseparably known as ICT because computing services are now performed and delivered through telecommunication networks to the handheld devices of users. The last mile of such wide area network is wireless. Again, wireless technology is by itself morphing from 4th generation to 5G.

Objective

Communication is a subject of oceanic dimensions. Applications of digital technologies have further added and multiplied its dimensions in an all-pervasive manner with advancements for worldwide usage. Keeping this in view the limited objective of this paper is to briefly understand

Image Source: <https://ultcoin365.com/will-we-even-notice-the-transition-from-web2-to-web3/>

the path through which the processes of communication evolved since the primitive era of human civilisation to present day Web3.0. What seeds are there in the womb of foreseeable future would also briefly be mentioned. The ancient era has been included to understand how mankind kept on learning and improvising the manner, media and mode of communication and how previous knowledge and experience helped innovating the subsequent advanced versions. Efforts have been made to also understand how NextGen applications are being developed using enabling features of Web3.0 for the benefits of mankind.

Evolution of Communication to Internet

Ancient men used variations in sounds of mouth and objects to communicate. Historians are divided in estimating period for commencement of communication in such crude form varying from 5,00,000 BCE to 50,000 BCE. Mankind used fire lighted on burning objects and high-pitched sound of mouth as distance signalling system during day and night. However, there is consensus about use of gestures and postures right from the onset of some sense of civilisation which continued to evolve.

Ancient people were forced to be more creative because they had no option but to generate a common meaning and understanding of every single gesture and posture. This is what has finally evolved as the present-day sign language. Post discovery of archery different types of arrows were in use with each pattern of arrow conveying different meanings and messages. The evolution continued.

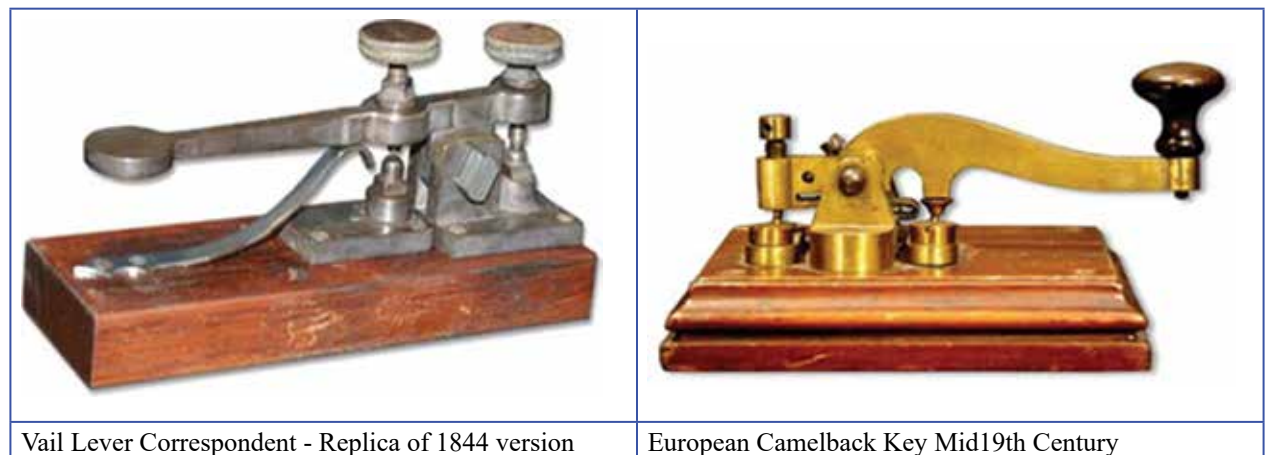
When ancient people started staying in caves walls of those started being painted with pictograms, icons, and images ideated from nature. That was also a medium of communication for visitors and passers-by. May Clare Novac¹, a content marketing specialist of USA, is of the view that “*Communication for ancient man*

became more complex as variations of cave paintings evolved into pictograms.... Later, ideograms were created and used to communicate concepts”. As per Oxford dictionary ‘Pictographs’ are known as the earliest form of communication found in Mesopotamia and Egypt from 3000 BC. Hoisting some large objects on tall pole like items were used for long distance communication. Thus, hand drawn images and pictures also became a medium of communication. In course of time came photography using films and now digital photography is in prevalence.

Improved versions of still photographs and videos, have returned as a major medium of communication in contemporary digital era. Advanced applications of the same are augmented reality and virtual reality (AR & VR) mixed with sounds of nature and music and recited verses. Through the process of evolution came hand-written communication which was complemented by printing press. Its ideation and evolution started from the 9th to 14th century mainly in Chinese and Egyptian civilisation. Johannes Gutenberg of Germany first crafted its modern non-automated version in 1446. Around 1690 newspapers started being printed for mass communication.

Communication Technology - Telegraphy to Cell Phone

Long distance written communication started with discovery of electrical telegraphy machine. In 1837 Sir William Fothergill Cooke and Sir Charles Wheatstone contributed to mankind a patented telegraph system. It consisted of “... *six wires and an actuator with five needle pointers attached to five galvanoscopes at the receiver”*. Such an English worded message transmitting and receiving equipment used to be popularly known as ‘*Tore Takka*’ machine by Indians of earlier generations, because it makes such sound while in operations. The author has seen the second one in picture in a post office during his school days of late 1960s.



Images of Telegraph Equipment: <http://www.sparkmuseum.com/TELEGRAPH.HTM>

Thereafter came the voice-based communication system transmitted through electrical wires which is obviously language agnostic. The real-life story of 1876 for discovery of voice-based communication is like this. Thomas A. Watson,

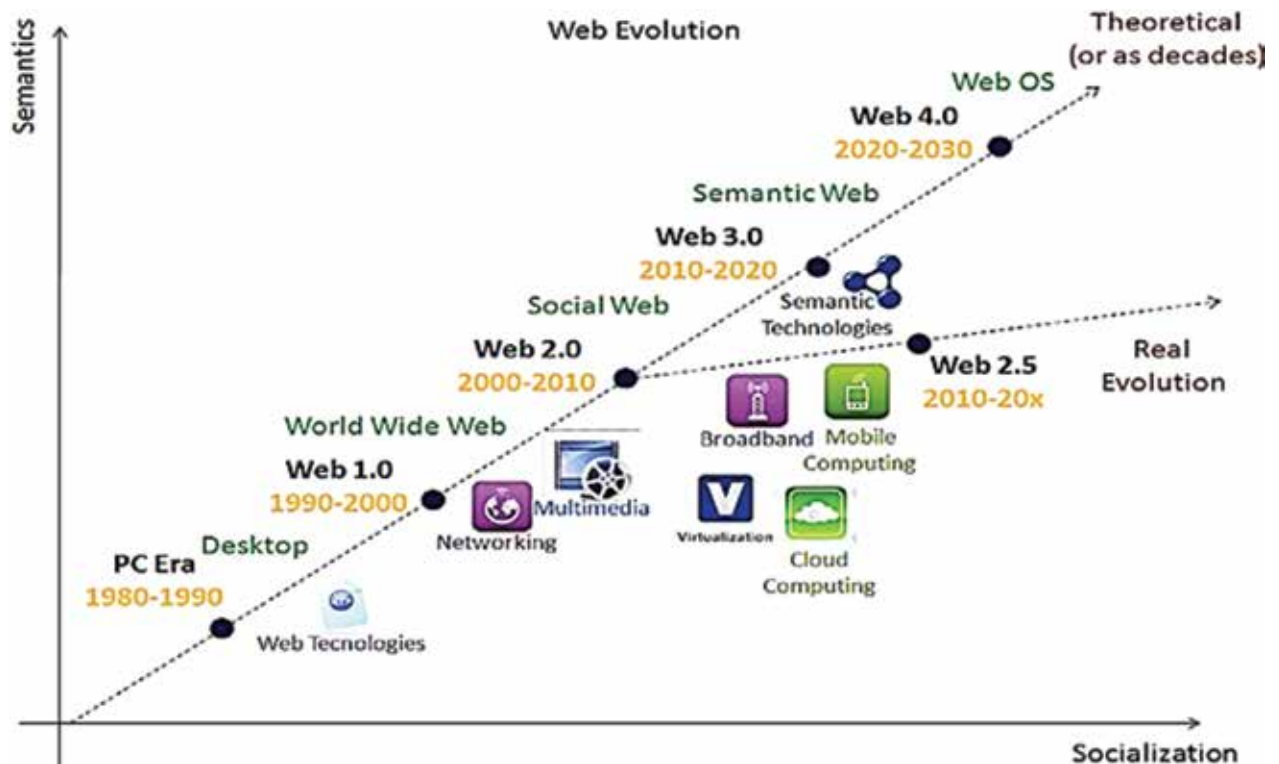
one of Alexander Graham Bell’s assistants, was struggling to reactivate a telegraph transmitter. He was trying to set right a method for transmitting multiple messages on a single wire. Then Mr. Bell² “... heard the sound of a plucked spring along 60 feet of wire. Hearing the sound, Bell believed that he could solve the problem of sending a human voice over a wire. He figured out how to transmit a simple current first. Five days later, he transmitted actual speech. Sitting in one room, he spoke into the phone to his assistant in another room, saying the now famous words: «Mr. Watson, come here. I need you.»

Subsequent inventions and innovations replaced electrical cables by optical fibre cable to accelerate carriage of packeted pulses of infrared light signals in a wired network. Till around 1970s computers were immobile. Communication and computation on the move were made possible by using telecommunication technology. When the last mile of network connection in a telecommunication network was replaced by wireless technology till the point of hand-held device of users, communication became mobile. All these multiplied users of internet several

hundred folds and the present era is the era of ICT.

Internet to Web3.0

Government researchers of the USA started using locally connected computers in 1960s for sharing confidential research related information. As a reported new items of The Economic Times³ “Albeit Ray Tomlinson is universally credited as the creator of email as part of a program for ARPANET in 1971 a 14-year-old (American boy of Indian origin), Shiva Ayyadurai began his work on an email system for the University of Medicine and Dentistry of New Jersey. His task was to emulate the paper-based interoffice mail system electronically and in 1982, he copyrighted his software, called “EMAIL”. However, the first formalised version of Internet, is reported to be established on January 1, 1983, when the first version of Transfer control Protocol and Internetwork Protocol (TCP/IP) were established facilitate different types of computers using different networks. Since then, many developments and innovations took place. The following is a calendarized history of Web developments:



Source: https://www.mdpi.com/futureinternet/futureinternet-04-00852/article_deploy/html/images/futureinternet-04-00852-g001.png

Web1.0

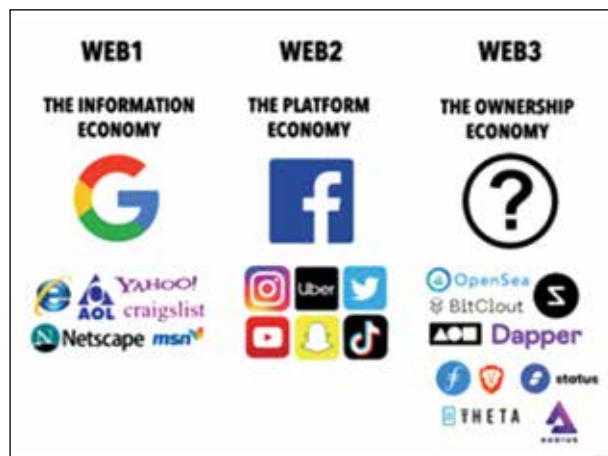
Web1.0 was predominantly an information sharing and read only version of internet. Its contents could not dynamically be changed by users. The major three functional features of this were ‘Search Engine’, ‘Web Address’ and static HTML

pages presented through internet which could not be modified or added with more unlike what we see in present day web pages/platforms of banking or eCommerce sites where a user can, fill up forms, type in blank pages, insert information, etc. and submit. Limitation of Web1.0 was limited to a carrier of written communication only between two users without any possibility of change. Commercial use of Web1.0 could be found in the form of Encyclopaedia, Britannica, and Yellow Pages, etc.

Web2.0

This second version of Web brought in many dynamic features enabling internet users to interact with the web page provider and connect with more than two users. It provided facilities to navigate between two or more web pages because of being compatible for different types of computers, including mobile phone handsets, and interoperability. As opposed to Web1.0, which could only be operated between two computers, this version facilitated interactions amongst many. For example, after circulation of research questionnaires through Google Form the target audience can fill up the questions and submit. Again opinions/comments can be exchanged between two users underneath one post in LinkedIn on which others can also comment under their disclosed individual identities with photographs. This version facilitated operations using cloud computing with centralised control.

Web Iterations and Giant Users



Source: <https://ertano.com/web-3/>

Platforms and websites created using Web2.0 enabled users to add contents like users of facebook LinkedIn, Instagram etc. do. That is why most of the social media used Web2.0 as a powerful and user-friendly technology for attracting corporates and generating advertisement revenue. Web2.0 enabled establishment of virtual or cyber marketplace which facilitated eCommerce with improvised business and revenue models. Reader may be using some of the Web2.0 based websites as shown in the above illustrative graphic. One can fill up forms in Google Docs, read a news item at the website

of Economic Times and then share through LinkedIn. Even the websites provide icons of other websites like LinkedIn Twitter, for sharing information etc.

Because of the above features Web2.0 is also known as participative web with facilities for interoperability. Most of corporate entities, government agencies and various other types of organisations adopted and migrated to Web2.0 around mid of the first decade of 2000. However, one of its major handicaps is inability to handle virtual objects and elements, as we experience today like digital assets. It also functions completely in a centralised mode under permissioned and supervised environment. The process of working is not democratic and quite vulnerable for cyber security threats involving data privacy, security and safety of users' identities and personal/official resources.

Web3.0

The old axiom, necessity is the mother of inventions, once again proved itself in case of world wide web technology. The above discussions on Web 2.0 reveals that it could not get rid of several shortcomings and handicaps particularly ownership of contents and vulnerabilities related to security, safety, and privacy. Again, digital solution designers also innovatively thought through for advanced utilisation of the power of web based technologies by integrating with it a few other technologies.

The world thus saw advent of the third iteration of Web in 2010 which aims at setting up a decentralised online network by using DApps or decentralised applications. It enables users to own and control the contents and the assets they create. If need be, the reach of network can be extended to global users. This version establishes a peer-to-peer network using Blockchain which provides all benefits that this technology provides. This technology also enables 'Distributed Data Storage Management System' (DDSM) Readers may read about blockchain technology in Chapter 9 of the author's book⁴.

Vivek Madurai⁵ is of the view that Web3.0 can also be described as "... *Semantic Web or read-write-execute which refers to the future of web.... can interpret information like humans via Artificial Intelligence and Machine Learning. Which help to intelligently generate and distribute useful content tailored to a particular need of a user.*" Its objective is to understand "People, Place, Events, Companies, Products, Movies, etc." The platform operates with a set of Smart Contracts as its driving and guiding force the terms and contracts of which are embedded in the script of the software that runs the platform.

Web3.0 has also integrated cognitive intelligence technologies, viz., AI, ML to the blockchain based platform for analyses of transactional data generated by the platform. This in turn helps users to draw inferences, identify gaps, ideate shape of things to come, predict and formulate strategies for future. For the benefit of better appreciation of this third iterations of web applications in terms of major

features and capabilities readers may further reflect on the following tables. Readers interested to know more about

Web3 Taxonomy may refer the related article of Curve Lab⁶.

Comparative Analysis of Major Features of Web Iterations

	Web 1.0	Web 2.0	Web 3.0
INTERACTION	Read	Read-Write	Read-Write-Own
USER DATA	Cookies	3 rd Party Controlled	Portable and Personal
MEDIUM	Static Text	Interactive Content	Virtual Economies
ORGANIZATION	Companies	Platforms	Communities
INFRASTRUCTURE	Personals Computers	Cloud & Mobile	Blockchain Cloud
CONTROL	Centralized	Centralized	Decentralized
AD-SPENT	Page Views	Cost Per Click	User Engagement

Source: Adopted from Grayscale Metaverse Research Report

Source: <https://crosstower.com/wp-content/uploads/2021/12/Indias-1-Trillion-Digital-Asset-Opportunity.pdf>

From the above narratives readers might have appreciated that *“Web3’s endgame must be to forge an entirely new culture and institutions for market-based, regenerative, and glocally-collaborative conservation.”* Web3.0 seems have to a large extent fulfilled the vision⁷ of Sir T. J. Berners-Lee, known as the creator of world wide web, as enshrined in these words, *“no permission is needed from a central authority to post anything ... there is no central controlling node, and so no single point of failure ... and no “kill switch”!*

NextGen Applications of Web3.0

Various enabling features of this third iteration, as delineated above, by themselves are indicators of various purpose and objectives for which Web 3.0 is being used for safe administration of economic values and rendering services with participations of all in a digitally created decentralised democratic environment. The author has attempted to summarise various next generation applications and use cases using Web3.0 in the following bulleted points:

- ⊙ **Decentralised Applications:** Decentralised finance, Virtual digital assets, Cross-chain applications ensuring hassle-free interoperability.
- ⊙ **Metaspaces and Metaverse:** Three dimensional immersive spaces for organising celebration events like marriage, birthdays etc., Near real or virtual marketplaces with applications of AR, VR and mixed realities.
- ⊙ **Decentralised Finance and Virtual Digital Assets:** Multichain and interoperable financial solutions involving different types of CBDCs, Non-fungible Tokens, Virtual digital assets (VDAs), Crowd funding, etc.

- ⊙ **Advanced Gaming:** Qualitatively elevating gaming industry from gaming for entertainment to newer heights of gaming with mind and brain, Play to earn and play to own games, etc.
- ⊙ **Advanced Data Management Privacy, Safety and Security:** Cryptography with advanced algorithms, Zero-knowledge proofs that are ensured by blockchain technology.
- ⊙ **Advanced Social Media Applications:** Decentralised applications, Simultaneous applications of private key and public key to mask identity of users, Wallet based access
- ⊙ **Virtual Real Estate:** Non-fungible tokenised real-life assets for participative ownership, digitised documentation for establishing digital proof of ownership, and Virtual marketplace for real estate with application of 3D technology
- ⊙ **Work from Anywhere:** Creation of workspaces away from offices with 3D, Creating virtual avatars, Enabling facilities for conducting virtual meetings and creating of Avatars with integration of robotic process automation,
- ⊙ **Advanced Non-fungible Tokens:** Creating and maintaining records for immutable non-fungible tokens, Funding for decentralised autonomous organisations (DAO) by trading NFTs against fiat currency and allowing proportionate ownership and voting power.

The above is an illustrative list of innovative applications of Web3 and in no way an exhaustive list of what more applications have been and are being implemented.

Web4.0

Past trends in development and evolution of different digital technologies forces one think that even before exhausting capabilities of Web3.0 the next iteration will arrive. It is being said that the next Web version will not entirely be new avatar but will arrive with major additions of capabilities to Web3.0, e. g., variety, vector, intelligent knowledge distribution, personalized content. According to Slava Blagirev⁸ “*Web 4.0 is the Web Internet available on mobile devices as it is now through the prism of an event-driven approach, within which you, as an ordinary user, do not feel boundaries.*” Web4.0 is expected to use vector graphics which with highly scalable relatively smaller sizes. Presently when any picture is expanded or zoomed, the image pixelates, i. e., divides into pixels and its beauty gets distorted. Vector graphics are expected resolve this problem. Going forward Web5.0 is expected to create an extra decentralised web. As of now it is not clear what shape of things would emerge.

Conclusion

An author is never satisfied with what she/he writes. Such a sense of dissatisfaction deepens when prior efforts involve substantial research and assimilations. Efforts of any author always aim at making such a paper on technologies more informative and simpler for readers to go through in search of knowledge with fair understanding of what is being read. So is the state of mind of the author of this article. His efforts will meet some semblance of serving the purpose if readers get to know about evolutions of world wide web (www) technologies and their innovative applications. This will help them to appreciate how overwhelming impacts are created on the way of a common man’s living daily life and conducting business activities.

Hopefully readers from the world of academia and

research would get some seeds of thoughts to formulate problem statements for their future research. It would be the author’s privilege to participate in such research in search of excellence. **MA**

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COBOTS AND DIGITAL TWINS ARE USHERING IN INDUSTRY 5.0



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Abstract

Digital transformation disrupted both manufacturing and services. Implementation of Industry 4.0 and its equivalents resulted in smart factories, intelligent automation, and robots working as colleagues of humans. Digital twins facilitate seamless integration of physical and virtual workspaces. However, there is a need to incorporate sustainability and a focus on human well being and Industry 5.0 champions this holistic approach.

INTRODUCTION

Robots have been used in industrial production and other applications for long. The first industrial robot, UNIMATE was invented by George Devol and was deployed in the General Motors assembly line in 1961. It carried die cast components and welded them to auto bodies, a potentially dangerous operation for humans. So, what is so different now? The difference is the way in which humans and Robots collaborate to bring about greater societal good. It calls for a partnership between human and machine as colleagues combining the emerging cognitive computing capabilities of robots with human intelligence and resourcefulness. COBOTs or Collaborative Robots are Robots are not competing with their human counterparts and all these interactions will happen in a safe and secure manner. Industry 5.0 aims at supporting humans and not superseding them. Maybe it is a recognition of the famous tweet by Elon Musk “Humans are underrated.”

Digital twins are digital equivalent of physical entities in the sense that they can be easily integrated into the information network and facilitate two-way communication. The physical asset can be monitored and managed through its digital twins. It calls for the digital twins continuously monitoring the physical environment of the physical asset or facility through a network of sensors that dynamically gather real-time data. They are also capable of learning from this information and its contexts and by interacting with humans, devices, and other networked digital twins. Thus, digital twins can continuously communicate and collaborate with their associated physical and digital objects and with humans. Digital twins (which is in the flow space created by connected networks and represents physical assets and facilities) and Cobots which are in the place space (familiar physical space) will collaborate with humans as colleagues and that is the distinguishing characteristic of Industry 5.0.

SOME MAJOR ASPECTS OF INDUSTRY 5.0

The European Commission identifies Industry 5.0 as an approach to redefine the role played by industry in society. It expects Industry 5.0 to aim beyond the narrow confines of efficiency and productivity to going digital and green. Thus, Industry 5.0 may give thrust to the following:

- ⊙ Transition to a circular economy which means that overall resource efficiency and sustainability will be more important than short term benefits. It may lead to action on sustainability and respects planetary boundaries
- ⊙ Deployment of AI based systems may be regulated to ensure a more human centric approach. Welfare of all stake holders ensures promotion of employee talents, diversity, and empowerment
- ⊙ Skill upgradation and digital literacy at all levels to facilitate working with Cobots. It will

promote agility and resiliency with flexible and adaptable technologies.

ENABLING TECHNOLOGIES FOR INDUSTRY 5.0

All industrial revolutions are centered around general purpose technologies which acted as the universal driver. First industrial revolution was mechanization enabled by the steam engine, second by mass production and division of labour through electrification, third by electronics-based automation and fourth by the integration of cyber physical systems through the internet of things. Industry 5.0 has embraced a more holistic approach by looking at economic, ecological, and social benefits of any endeavour. Triple bottom line of sustainable development must be adopted by management accountants aspiring to be part of industry 5.0

Industry 5.0 is enabled by human-centric solutions and human-machine collaboration technologies that interconnect and combine the strengths of humans and machines. It calls for an inter-disciplinary as well as transdisciplinary approach as integration of disparate disciplines like social sciences, life sciences and engineering is involved. A systems approach is essential for making progress in this integration. Social equity and sustainability are endearing concepts, but the economic dimension cannot be forgotten. Business models developed must maintain economic profitability and competitiveness. The role of management accountants is to evaluate the options in a dispassionate way while fully acknowledging future trends. Scalability is the ability of a system to quickly respond to changes in demand by adding or removing resources without losing effectiveness or response time. Industry 5.0 is supposed to enable a broad-scale implementation of technologies across value chains and ecosystems including small and medium sized enterprises.

Cobots in manufacturing are different from the traditional industrial robots operating in a fenced-off area not accessed by humans

ABOUT COBOTS AND DIGITAL TWINS

Being a digital twin of a physical entity is really challenging. Internet of Things is what enables and updates the real time status information about the represented physical entity. It calls for a combination of multiple enabling technologies, like transducers and sensors, cloud computing, AI, and advanced analytics, and augmented and virtual reality. A customized mix of technologies is normally used based on the needs and user expectations. One of the best appreciated applications of digital twins is in supply chain management. It is possible to build non-linear supply chains and visualize thousands of 'what-if' scenarios by collaborating with digital twins. Managers can oversee physical movement of parts and materials on an end-to-end basis using digital twins. A collaborating supply chain manager is working with the digital twin as a colleague.

Robot itself may not be a physical entity. It may be a software bot. Deployment of Cobots must be preceded by a redesigning of work for human machine collaboration. There is also a need to recognize the constantly shifting boundaries between what humans do and what machines do due to digital transformation of associated activities and entities (let us call it innovation) and the ability of computers to continuously learn and improve their performance. Let us consider the case where the HR department is using AI to identify

the best possible candidates for open positions. An autonomous agent can help identify ideal candidates meeting the requisite skill and attitude and a final call can be taken by the HR pros. However, as the system filters prospective employees, it will gradually become aware of relevant trends, perhaps noting towns or colleges that produce greater numbers of candidates meeting the skill and attitude requirements of the organization. Based on this insight the company could conduct or participate in job fairs on those campuses or in the towns where those colleges are located. The learning of the system has enabled the optimum deployment of recruiting resources.

Cobots in manufacturing are different from the traditional industrial robots operating in a fenced-off area not accessed by humans. For the sake of safety, almost all of them are programmed to shut down if a human enters the enclosure. Industrial robots are typically designed to execute one specific task. They lack the cognitive capabilities to enable speedy re-programming of their operations based on new circumstances. Cobots on the other hand are connected and function in a real time information exchange basis. Collaborative robots can monitor the environment and coexist in a facility along with humans without sacrificing the performance or safety. They are widely used in the healthcare industry and the biggest advantage is the reduction in infection exposure to the frontline workers. Cobots are successfully deployed in various lab testing tasks. They offer consistency, high availability and reliability, high precision and fast turnaround time. With a human colleague their fast reprogramming and deployment for different tasks based on demand can be easily accomplished. Their wide deployment in medical record keeping, patient monitoring, medicine dispensing, palliative care, billing, and insurance claims processing is anticipated soon.

MANAGEMENT ACCOUNTING, BOTS AND COBOTS

A team of accountants working together could improve the quality and consistency of analysis while reducing the time taken. Robot will work in the background and will do analysis of data and identify patterns which are beyond human capability. It will be possible to simulate various scenarios and complete “what if analysis” in a jiffy. From the perspective of the profession they remove drudgery of manual and repetitive tasks.

John Elkington proposed the new framework for measuring corporate performance during mid-90s. This accounting framework, called the “triple bottom line” (TBL), recognizes all stakeholders in a business. The triple bottom line (TBL) looks at three bottom lines instead of the traditional one, Profit; people (social) and the planet (environmental) are the other two bottom lines required. Looking beyond the benefits of the shareholder necessitated the inclusion of measures to evaluate the environmental and social dimensions of a business. Studies have shown that the stakeholder orientation is being fast adopted and that the adoption of

sustainability measures have benefitted the traditional bottom-line as well. Creating value for all the stakeholders drives initiatives to sustainability as we all have only one earth to live on. The intersection of the three factors is result in sustainable business operations. Businesses which have a purpose, beyond making money, may find it easy to reorient for the TBL route. However, the real challenge will be when the management accountant must evaluate various businesses scenarios. The UN Sustainable Development Goals may have evolved from the TBL concept. TBL is expected to take into consideration the true cost of running a business. According to estimates “the U.N. Sustainable Development Goals forecast to generate market opportunities of over \$12 trillion a year by 2030” (Elkington, John; HBR 2018).

A RETHINK OF THE TRIPLE BOTTOM LINE

John Elkington wrote an article in Harvard Business Review in June 2018: “25 Years Ago I Coined the Phrase “Triple Bottom Line.” Here’s why it’s time to rethink it.” His major concern was that computing the TBL does not actually measure the well

beings of the billions of people who inherit our planet or the health of our planet. As suggested by him the B Corp movement and others may make a difference. As management accountants let us deploy social cost benefit analysis tools and measure the social and environmental impacts of businesses.

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AT THE HELM



Our heartiest congratulations to CMA G Ravisankar, Member of the Institute who has taken over the charge of the post of Director (Finance) of POWERGRID, a Maharatna PSU with effect from 21.09.2022.

He is a Mathematics Graduate from University of Madras and is an Associate Member of the Institute of Cost Accountants of India. CMA G Ravisankar has also done Post Graduate Diploma in Personnel Management and Post Graduate Diploma in Materials Management from Annamalai University. An accomplished technocrat, he has post qualification experience of 32 years, serving predominantly in POWERGRID (after a brief stint in NLC India Limited) in Construction office, Sub-stations, Regional Headquarters and Corporate Centre located in various parts of India. He has vast experience in key finance functions viz. Resource Mobilization, Budgeting, Financial Reporting, Commercial, Works Accounting and Retiral Benefits Fund Management. He has played a pivotal role in digitization of finance functions, establishment of bill processing hubs and ERP implementation and Development.

We wish CMA G Ravisankar, the very best for all his future endeavours.

REVITALIZING TRADE FINANCE FOR MSMEs IN INDIA THROUGH BLOCKCHAIN TECHNOLOGY

Abstract

Role of MSMEs in the economic and social growth of India is indispensable. However, trade finance is a major concern for most of the MSMEs in India. Blockchain technology can play here a crucial role by providing a secured and transparent digital platform thereby reducing both compliance time and cost. However, implementation of blockchain technology requires strong willingness, robust IT infrastructure, substantial changes in regulatory systems and basic IT skills on the part of the users. Given the vision of the Government of India to bring 60 per cent of the SMEs credit under digital umbrella by 2029, it can be contemplated that a new era will open for MSMEs in trade finance in India.



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INTRODUCTION

Micro, small and medium enterprises (MSMEs) are considered as the backbone of Indian economy. In terms of the notification dated 1st June 2020 issued by the Ministry of Micro Small and Medium Enterprises, micro, medium and small enterprises have been classified based on dual criteria of investment in plant and machinery and turnover. If investment in plant and machinery does not exceed Rupees one crore and turnover does not exceed Rupees five crores, the entity categorised as a micro enterprise. If investment in plant and machinery does not exceed ten crore Rupees and turnover does not exceed fifty crore Rupees, it is categorised as a small enterprise. If investment in plant and machinery does not exceed Rupees fifty crores and turnover does not exceed Rupees two hundred and fifty crores, it is categorised as a medium enterprise. As per annual report of the Ministry of Micro

Small and Medium Enterprises the estimated number of MSMEs stood at 325 lakhs in rural areas and 309 lakhs in urban areas (Figure-1).

FIGURE-1:

ESTIMATED NUMBER OF MSMEs (IN LAKH)



Data source: Annual report 2021-22, Ministry of Micro, Small and Medium Enterprises, GOI

Over the last 10 years, India has been suffering adverse balance of trade (Figure-2). According to Reserve Bank of India, over the last few years there has been a slowdown in global demand as well rise in crude oil prices. This twin effect has led to the growth of current account deficit. As per the report of KPMG and CII (2015), MSMEs not only can contribute significantly towards employment generation but also has significant export potential.

FIGURE-2:

EXPORT AND IMPORT TREND IN INDIA OVER THE LAST 10 YEARS.



Data source: Reserve Bank of India data base

Over the last few decades, it has emerged as the most vibrant sector. It has contributed significantly towards economic and social growth. According to the Press Information Bureau, Ministry of Micro Small and Medium Enterprises, the share of exports of MSMEs in all India exports during 2019-20 and 2020-21 was 49.8 per cent and 49.4 per cent respectively. Its gross value added at current prices stood at 30 per cent for the year 2019-20. The number of persons employed in MSMEs registered on Udayam portal stood at around 94 lakhs during the year 2021-22.

PROBLEMS OF MSMEs IN TRADE FINANCE

MSMEs may play a vital role here if they are given a push. Coronavirus pandemic has already rendered their situation pathetic due to consequent pressure from both demand and supply side. Default rates have already gone up very high. Today they are suffering from a lot of problems concerning international trade finance. Along with high rejection rate, there are many other problems which MSMEs are suffering. According to Reserve Bank of India (2020), the important ones are infrastructural bottlenecks and competition, access to credit and formalisation, and delayed payments. In addition to the above there are many other problems which are acting as hurdles for accessibility of trade finance by MSMEs. Some of these problems include:

- ⊙ *Lack of coordination:* There are different parties involved in the trade finance like importer, exporter, insurer, banks and shipping companies and there is lack of coordination between the different parties.

- ⊙ *High cost and time burden:* Generating letter of credit puts huge cost and time burden on *both bank and the client*. This is more true if the client is a *small business*
- ⊙ *KYC and other regulatory burden:* In international trade, it is mandatory for both the parties to comply with all regulatory formalities like trade sanctions, KYC etc. This creates too much of complexities and waste of considerable time
- ⊙ *Paper based documentation and contracts:* Now all documents and contracts prepared in trade finance are paper based. Invoices are manually checked. These formalities consume lot of time.
- ⊙ *Increase in frauds:* Due to manual documentation, the chances of frauds are more. Banks take extra precautions and take more time in verifying the documents.

HOW BLOCKCHAIN CAN SOLVE THIS PROBLEM

Even though, Government of India has taken several policy initiatives to improve their positions lot more is required to be done, particularly towards access to trade finance. Blockchain may play here a crucial role by bringing digitisation to documentary credit and supply chain finance (*OECD, 2021*). Trust is an important element between the borrower and lender. The blockchain has the potential to create trust because each party will know the other party well in terms of data and documentation. It can create a permission less market place. It works on the principle of decentralised data structure which is secured and transparent. All parties to the network have access to the distributed ledger. It has also the potentiality to create smart contracts with well-defined obligations of each party to the contract. These obligations are automatically enforced and discharged when specified conditions to the contracts are fulfilled. Blockchain is an advanced version of SWIFT and thus can be used efficiently in cross boarder payment transfers. It can not only reduce cost but also make the payment faster. In trade finance area blockchain may bring revolutions.

GLOBAL EXPERIENCE IN BLOCKCHAIN

According to Global survey on trade and finance by the International Chamber of Commerce (2020), KYC is the biggest hurdle in trade finance and now banks are focusing on digitising the trade finance and started capitalising the benefits of emerging technology. According to IBM there will be enormous benefits of using blockchain for trade finance. In addition to opening new streams of revenues for product finance, it will provide alternatives to letter of credit. Banks can readily be able to understand the financial position of the clients. It will provide greater visibility and reduce requirements of paper based

documentation. Thus, the time required for approval process will substantially get reduced. According to World Trade Organisation (2018), blockchain technology is most suited in those circumstances where multiple parties are involved and there is a need for trust and transparency. This technology at its nascent stage and many issues like technological, legal and interoperability are yet to be addressed. USAID (2018) pointed out certain prerequisites for implementing blockchain technology in developing countries. These are usability, maintenance, governance and legal. On usability front, the users should possess necessary IT skills, On maintenance front, basic IT infrastructure is a mandatory requirement and developing countries should focus to develop it as part of capacity building exercise. On governance front, strong willingness and commitment is required to operate and maintain the system. Finally, on legal front, major regulatory reforms are required. Thus, existing laws need to be amended in tune with blockchain requirements.

INITIATIVES IN INDIA FOR BLOCKCHAIN IMPLEMENTATION

According to National Strategy on Blockchain (2021), there is thrust to create a trusted digital platform at the national level. Efforts have already been initiated through a dedicated team under the supervision of Ministry of Electronics and Information technology. According to the office of the Principal Scientific Adviser to the Government of India, blockchain should be regarded as the most significant innovation after internet. Digital economy in India which presently comprises 14 to 15 per cent is expected to reach 20 per cent by 2024. Further, it is expected that by 2029 around 60 per cent of the SMEs' credit will be brought under the digital umbrella. The National Informative Centre (NIC) has already set up the Centre of Excellence in

For improving the trade finance problems, one probable solution could be digitisation which may include artificial intelligence

blockchain in Bengaluru to provide blockchain as a service to the different Government departments. Many Indian companies including TCS, TATA Motors, Reliance Industries, Infosys, TATA Steel, HCL, Wipro, Tech Mahendra etc. have already invested in blockchain technology. Further, many startups have emerged to provide services in blockchain technology. The day is not far when Indian economy will turn out to be a complete digital economy.

CONCLUSION

Access to trade finance is the biggest challenge for MSMEs. For improving the trade finance problems, one probable solution could be digitisation which may include artificial intelligence and building on big data. This can improve the quality of assessments in trade finance for MSMEs (OECD, 2021). In particular, blockchain may provide payment certainty to sellers through automated payment systems, delivery assurance to the buyer and mitigate the risk through digitisation of payment instruments. However, implementation of blockchain requires strong commitment to bring robust IT infrastructure, and changes in the existing regulatory systems. The Government of India has already taken initiative in this regard and it is expected that in a few years Indian trade finance will change to digital platform which will open new era in the growth of MSMEs. **MA**

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THE IMPACT OF CORPORATE SPIN-OFFS ON SHARE PRICE MOVEMENT

EMPIRICAL EVIDENCE FROM INDIA

Abstract

The present study focuses on the effect of spin-off announcements on the stock returns of 24 sample demerged companies in India for the period from 2009-10 to 2018-19. For this purpose, the market model of event study methodology has been applied. The impact of the spin-off is statistically significant on cumulative average abnormal returns of these sample firms for time windows (-2, +2) and (-10, +10) which are 5.088 per cent and 6.609 per cent, respectively, at a 5 per cent level of significance. This study supports the statement that changes in stock returns are strongly associated with the spin-off announcements.

INTRODUCTION

Corporate rebuilding is instrumental in improving productivity and proficiency by adjusting and rebuilding corporate undertakings. The standard thought processes behind building significantly refers to expanding investors' wealth, cost controls and efficiency improvements (Gupta et al., 2022). Spin-off offers an economic strategy for moving control of corporate resources to bidders who will make more prominent worth (Cusatis et al., 1993). The spin-off works on the exhibition of the parent's stock and expands the number of securities traded on the Stock Exchange (Habib et al., 1997). Lower positive anomalous returns are related to the taxable demerger and significant returns with non-taxable demerger (Krishnaswami & Subramaniam, 1999). A firm that needs external funding could fall back on divestitures; for example, demergers to raise capital at a fair market price after the divestiture (Chemmanur & Yan, 2004). Countless investigations depend on various country settings that demonstrate the positive association between the declaration of the spin-off and anomalous stock returns (Gupta et al., 2022).

LITERATURE REVIEW

Mallick and Rakshit (2006) examined and gauged Dabur India Limited's financial performance prior to demerger with that of parting their business into two fragments utilizing conventional techniques and valuation strategy EVA. Interestingly, Dabur Pharma Limited was found to have an expansion in negative EVA, uncovering a value-eroding segment. **Zakaria & Arnold (2014)** researched the



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performance of 36 Malaysian spin-off entities from 2008 to 2011 period. They examined the performance of spun-off companies against Malaysian index benchmarks and

matched strong portfolios using daily and monthly data. They considered an anomalous return of 5.40 per cent from -1 day to +1 day of demerger announcement. They concluded that the overall findings suggest that short-run spin-offs build (maybe illusory) value. However, there is no proof of long-run market outperformance.

Duguleana & L. Duguleana (2021) investigated the financial profitability angle of spun-off entities of Romania. Appropriate statistical and econometric tools of panel data were applied to analyse the sample companies before and after demerger for two sub-periods- 2005-2013 and 2014-2019. An improvement in profitability indicators was seen for all the sample companies post demerger indicating a significant effect on the profitability of these spun-off entities. **James E. Owers & Bruno S. Sergi (2021)** examined the impact of the spin-off on stock returns of demerged undertakings for the period 2007 to 2017. It was found that spin-offs resulted in positive anomalous returns for the demerged enterprises.

RESEARCH GAP & PURPOSE OF THE STUDY

This research is due to the lack of empirical studies of spin-offs in the Indian context. The international

studies focusing on shareholders’ value generation and Indian researchers emphasized the effect of the spin-off on financial performance and the risk position of demerged entities. Very few studies have focused on the impact of the spin-off on stock return demerged entities in the Indian scenario.

This study determines whether spin-off generates significant average and cumulative average abnormal returns post-spin-off. This study will help the academicians and shareholders get a transparent picture of how the stock market would react to a spin-off announcement, which will help the researchers conduct further research. The shareholders will also get an idea regarding their investment decisions post-spin-off.

The following research question can be formed:

Is there any linkage between the spin-off and the stock market reaction?

DATA, SAMPLE & METHODS

In order to conduct this research, 24 samples of demerged companies along with their control non-demerged companies have been taken into consideration. The period of study is from 2009-10 to 2018-19 to negate the impact of the global financial

crisis and Covid-19, which took place during 2007-2009 and 2019-2021 respectively. Given the objective of generating significant stock returns, we have applied the market model of event study methodology [introduced by *Sharpe (1963)*], where we calculated excess returns, cumulative abnormal (excess) returns, average abnormal(excess) returns (AAR) and cumulative average abnormal(excess) returns (CAAR). Cross-sectional t-test is used for the parametric t-test (*Brown & Warner, 1980*). We have applied the cross-sectional t-test of AAR and CAAR to test the significance of the impact of the spin-off on stock returns for both demerged and control non-demerged companies for the given event window.

Further, we have tried to test the significance of AAR and CAAR for different lengths of time within the event window. The spin-off announcement date has been considered the event date. We have considered an event window of 21 days (+10 days, -10 days) from the spin-off announcement) and an estimation window of 100 days for this purpose. We have collected the data from the Capitaline Database and the official website of NSE.

The list of demerged, spun-off and control companies are given below:

DEMERGED COMPANIES	SPUN-OFF COMPANIES	CONTROL COMPANIES	SPIN-OFF ANNOUNCEMENT DATE
1. MANAKSIA LTD	MANAKSIA COATED METALS & INDUSTRIES LTD	1. ELANGO INDUSTRIES LTD.	28/12/2012
2. GREENPLY INDUSTRIES LTD.	GREENLAM INDUSTREIES LTD.	2. STYLAM INDUSTRIES LTD.	30/09/2013
3. SURYAVANSHI SPINNING MILLS LTD.	AANANDA LAKSHMI SPINNING MILLS LTD.	3. SRI RAMAKRISHNA MILLS LTD.	6/1/2014
4. GULF OIL CORPORATION LTD	GULF OIL LUBRICANTS INDIA LTD	4. PREMIER EXPLOSIVES LTD.	29/05/2014
5. ADANI POWER LTD	ADANI TRANSMISSION INDIA LTD	5. ORIENT GREEN POWER LTD.	7/10/2014
6. TANEJA AEROSPACE	AVIATION LTD AND TAAL ENTERPRISES LTD.	6. HMT LTD.	9/10/2014
7. MASTEK LTD.	MAJESCO LTD.	7. ONWARD TECHNOLOGIES LTD.	15/09/2014

8. PUDUMJEE PULP & PAPER MILLS LTD.	PUDUMJEE PAPER PRODUCTS LTD.	8. ZUARI GLOBAL LTD.	17/01/2015
9. CG POWER & INDUSTRIAL SOLUTIONS LTD.	CG CONSUMER ELECTRICALS LTD.	9. V GUARD INDUSTRIES LTD.	3/3/2015
10. MOHIT INDUSTRIES LTD.	BIGBLOC CONSTRUCTION LTD.	10. SHEKHAWATI POLY-YARN LTD.	17/06/2015
11. JINDAL SAW LTD.	JINDAL POLY INVESTMENT & FINANCE CO LTD.	11. SURYA ROSHNI LTD	25/04/2011
12. GENUS POWER INFRASTRUCTURE LTD.	GENUS PAPER & BOARDS LTD.	12. PG ELECTROPLAST LTD.	3/1/2013
13. IDFC LTD.	IDFC FIRST BANK LTD.	13. EDELWEISS FINANCIAL SERVICES LTD.	30/10/2014
14. ALEMBIC	ALEMBIC PHARMA LTD.	14 LYKA LABS LTD.	29/6/2010
15. KALYANI STEELS	KALYANI INVESTMENT CO. LTD.	15. ASHIANA ISPAT LTD.	1/10/2009
16. CHANDNI TEXTILES ENG. INDUSTRIES LTD.	CHANDNI MACHINES PVT. LTD.	16. LAKSHMI AUTOMATIC LOOM WORKS LTD.	15/7/2016
17. KANISHK STEEL INDUSTRIES LTD.	CHENNAI FERROUS INDUSTRIES LTD.	17. BAJAJ STEEL INDUSTRIES LTD.	18/5/2010
18. INDIABULLS REAL ESTATE	INDIABULLS WHOLESALE SERVICES LTD.	18. TEXMACO INFRASTRUCTURE & HOLDINGS LTD.	26/2/2010
19. HSIL LTD.	SOMANY HOME INNOVATION LTD.	19. CERA SANITARYWARE LTD.	10/11/2017
20. HT MEDIA LTD.	DIGICONTENT LTD.	20. JAGRAN PRAKASHAN LTD.	25/8/2017
21. ORIENT ABRASIVES LTD.	ORIENT REFRACTORIES LTD.	21. WENDT INDIA LTD.	8/12/2010
22. SINTEX INDUSTRIES LTD.	SINTEX PLASTICS LTD.	22. BANSWARA SYNTEX LTD.	29/6/2016
23. STRIDES PHARMA LTD.	SOLARA ACTIVE PHARMA SCIENCES LTD.	23. PIRAMAL ENTERPRISES LTD.	20/3/2017
24. TRANSPORT CORPORATION OF INDIA LTD.	TRANSPORT CORPORATION OF INDIA EXPRESS LTD.	24. JAYKAY ENTERPRISES LTD.	10/8/2015

Source: Authors' own tabulation

We can formulate the following hypotheses in connection with our objective to evaluate the impact of the spin-off on stock returns.

H01: There is no significant difference between the average abnormal returns after demerger and the average abnormal returns of the pre-demerger period of demerged and control companies.

With respect to the hypotheses

mentioned above, alternative hypotheses indicate the occurrence of significant differences.

H02: There is no significant difference between the cumulative average abnormal returns after demerger and the cumulative average abnormal returns of the pre-demerger period of demerged and control companies.

Concerning the hypotheses

mentioned above, alternative hypotheses indicate the occurrence of significant differences.

RESULTS & DISCUSSIONS

We have taken various time lengths within the event window to check whether the effect of the spin-off on cumulative average excess returns of demerged entities is significant or not for these different time frames.

TABLE I:
TEST OF SIGNIFICANCE OF RETURNS FOR VARIOUS TIME LENGTHS

Window	CAAR	C Std. E	t-statistic	p value
(-10,-1)	0.02709	0.01804	1.50131	0.1365
(1,10)	0.00614	0.02249	0.27298	0.7854
(-5,-1)	0.01399	0.02207	0.63393	0.5276
(1,5)	-0.00597	0.02208	-0.27046	0.7874
(-5,5)	0.02415	0.02895	0.83418	0.4062
(-2,2)	0.05088	0.02331	2.18282	0.0314
(-10,10)	0.06609	0.0307	2.1528	0.0338

Source: Author’s own computation

We have taken seven different time windows (within the event window of 21 days) to verify the results that we have already arrived at. The cumulative average excess return appears to be positive for all time windows except (1, 5 days) time window. Further, Cross-sectional t-tests have been applied to test whether these returns are statistically noticeable or not. The **t**-statistic of cumulative average excess returns and their **p** values for most of the time windows indicate that the effect of the spin-off on cumulative average excess returns is not statistically noticeable. However, it is noteworthy

that the impact of spin-off has been found statistically noticeable at 5 per cent level of significance for time windows (-2,+2) and (-10,+10). The cumulative average anomalous returns for the time window (-2,+2) is 0.05088, which indicates the cumulative average abnormal gain for this time window is 5.088 per cent . For the time window (-10,+10), the cumulative average abnormal gain is 6.609 per cent . This finding is consistent with the findings of the research conducted by various researchers in the US market, stating that the announcement of a spin-off causes significantly positive abnormal

returns (*Rosenfeld, 1984*). Therefore, it can be asserted that there is a significant impact of the spin-off on cumulative average abnormal returns of the demerged entities for these two-time windows.

Now, we have tried to analyse the change in stock returns for control entities due to spin-off.

We have taken various time lengths within the event window to check whether the effect of the spin-off on cumulative average excess returns is significant or not for these different time frames.

TABLE II:
TEST OF SIGNIFICANCE OF RETURNS FOR VARIOUS TIME LENGTHS

Window	CAAR	C Std. E	t-statistic	p value
(-10,-1)	0.02338	0.02397	0.97569	0.3316
(1,10)	0.01689	0.02005	0.84259	0.4015
(-5,-1)	0.01396	0.01419	0.98368	0.3277
(1,5)	0.02812	0.01562	1.79978	0.750
(-5,5)	0.04096	0.01873	2.18683	0.311
(-2,2)	0.01856	0.01406	1.31984	0.1900
(-10,10)	0.01974	0.03025	0.65249	0.5156

Source: Author’s own computation

We have taken seven different time windows (within the event window of 21 days) to verify the results that we have already arrived at. The cumulative average excess return appears to be positive for all time windows. Further, Cross-sectional t-tests have been applied to test whether these returns are statistically noticeable or not. The **t**-statistic of cumulative average excess returns and their **p** values for all time

windows indicate that the effect of the spin-off on cumulative average excess returns is not statistically noticeable for all the time windows. Therefore, it can be asserted that there is no significant impact of the spin-off on cumulative average abnormal returns of the non-demerged control entities considering various time windows.

CONCLUSION

Though the impact of the spin-off is statistically significant on cumulative average abnormal returns of the sample demerged entities on and around the spin-off announcement date, it is important to mention that the impact of the spin-off is statistically insignificant for most of the days within the event window. It is important to note that the spin-off has been found to be

statistically insignificant on average abnormal returns and cumulative average abnormal returns of non-demerged control companies. Thus, it can be clearly stated that spin-off has a significant impact on stock returns of the demerged entities, specifically on and around the event date for time windows (-2,+2) and (-10,+10), wherein these time windows generated a cumulative average abnormal gain of 5.088 per cent and 6.609 per cent respectively.

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Inviting Research Articles/Case Studies for CMA Agri Bulletin - November 2022 Issue

The Institute of Cost Accountants of India has constituted an Agriculture Task Force viz. 'Task Force on Agri Cost Management' for the purpose of evolving ways and means of augmenting the farmer's income. The Institute looks forward in extending support to the Government initiatives by way of preparing concept papers and research monographs on Agricultural Costing & Pricing, conducting awareness programmes, courses and discussion sessions on pan India basis to come out with an advisory on the steps to be taken in order to achieve the objectives set by the Government in this regard and extending support to the farmers. Publication of 'CMA Agri Bulletin' in a regular interval is an initiative of this Task Force to encourage the researchers to write research based articles and case studies on various areas of Agriculture Cost Management with a view to 'Educating, Empowering, Enhancing and Enriching' the farmers.

CMA Agri Bulletin: November 2022 Issue, Vol. 2, No. 2

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PRE-PACKAGED INSOLVENCY RESOLUTION PROCESS (PPIRP) UNDER THE INSOLVENCY & BANKRUPTCY CODE (IBC), 2016: WHY A NON-STARTER?

Abstract

The micro, small and medium enterprises (MSMEs) significantly contribute to the Indian economy, country's exports and employment generation. With low-capital base and heavier dependence on both formal source of credit from the banks and informal sources, they are prone to sickness at the time of economic downturn. They were worst hit during the Covid-19 pandemic. The pre-packaged insolvency resolution process (PPIRP) was uniquely designed on April 4, 2021 to give relief to the stressed MSMEs, by amending the Insolvency & Bankruptcy Code (IBC), 2016. But even after 18 months' of the legislation, the progress of PPIRP is far from satisfactory. The objective of this article is to analyse the causative factors for the tardy progress in resolution of distressed MSMEs under the new pre-pack regime. The methodology adopted was through literature survey, and a structured questionnaire to the senior bankers, practising insolvency professionals, and MSME entrepreneurs. The article attempts to suggest remedial measures for smoother implementation of the pre-pack process, tailor-made for the stressed MSMEs.



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Introduction:

The PPIRP framework for the distressed MSMEs was introduced by amending the IBC, 2016 on April 04, 2021. For country's vision of Atmanirbhar Bharat, the MSMEs play a dominant role. They were facing acute liquidity crunch and business disruptions due to the Covid-19 pandemic. The main objective of PPIRP is job preservation by maintaining business continuity and ensuring a time-bound, cost-efficient resolution mechanism. Pre-pack is a "debtor-in-possession" model with suitable checks and balances.

It became operative from April 09, 2021 with relevant notification, rules and regulations. The Code envisages completion of the process within 120 days from the pre-pack commencement date.

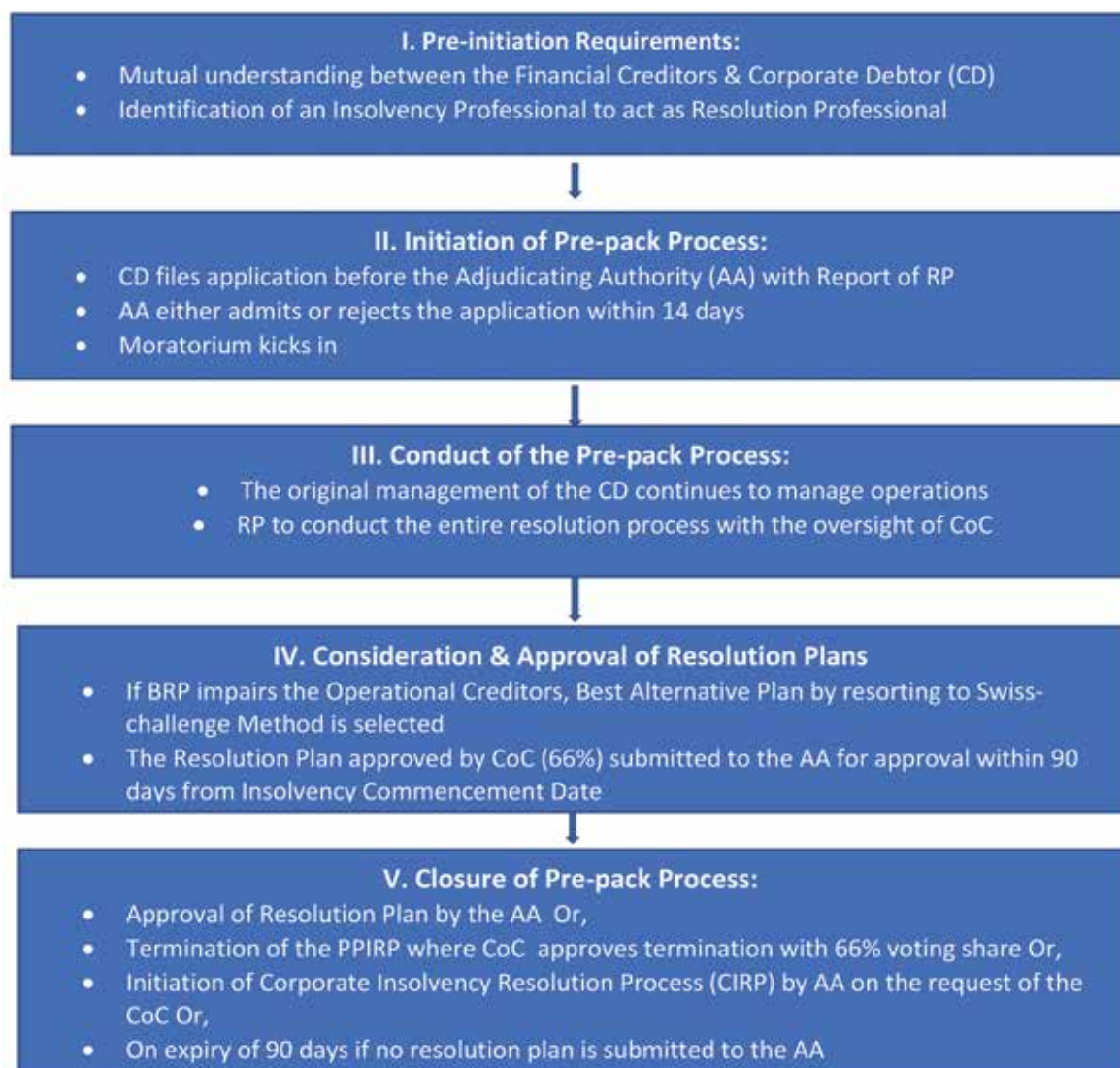
Eligibility:

PPIRP is applicable to the corporate MSMEs with minimum default of Rs.10 lakhs. For initiating an application under PPIRP corporate debtor should be classified as an MSME under the "MSME Development Act, 2006" and it should be eligible to submit a resolution

plan under the section 29A of the IBC.

Process Flow:

A typical process flow chart of PPIRP is as under:



Benefits of PPIRP:

The sub-committee of the Insolvency Law Committee(ILC) on IBC in 2020 noted the following benefits of a typical pre-pack:

Sr. No.	Particulars	Benefits
i	Quick resolution	By enabling a quicker resolution, pre-pack ensures job preservation and value maximisation
ii	Cost effective	During pre-pack process, the CD continues with the existing management. Hence no interruptions in the business activity. There is savings in legal expenses as the resolution process is conducted outside the court.
iii	Value maximisation	The resolution period has been curtailed to 120 days as compared to formal process of CIRP (maximum of 330 days). The erosion of value is restricted.
iv	Job preservation	Since pre-pack begins at the incipient stage of stress, it helps continuity of business operations without any job loss.

v	Lighter on Courts	As the Courts have limited infrastructural capacity, the pre-pack process will ease their obligation.
vi	Cooling-off Period	There is a cooling-off period of three years for initiating fresh pre-pack process.

The Need for the Study:

When the PPIRP was introduced, it was hoped that it would act as a panacea for the ills of the MSMEs, badly hit by the pandemic. No doubt, the creditors and the business owners are well-equipped to take the business decisions together, which would be sealed with a judicial approval. The RP's role was limited as a monitor of the resolution process. But it is observed that even after a lapse of nearly eighteen months' of legislation, the number of units for debt resolution under the PPIRP are a few (only two cases have been admitted by NCLTs across the country so far). There is a scarcity of literature on the aftermath of the PPIRP legislation and the analysis of causative factors for slow progress. Hence, the need for the present study.

Review of Literature:

Sanjana Rao (2019) compared and analysed the pre-pack insolvency processes to rescue the corporates from bankruptcies in UK and USA. The researcher having dwelt upon the experiences in pre-pack regimes in various other foreign jurisdictions, has attempted to explain how the similar pre-pack corporate rescue mechanism would fare in the Indian insolvency market with amendments to IBC. The researcher has suggested, as the benefits outweigh the disadvantages the pre-packs may prove beneficial and strengthen the IBC process in India.

Ram Mohan and Vishakha Raj (2020) have emphasized upon the protection of the creditors in the pre-pack process. The researchers have flagged the concerns that lack of publicity and public marketing may militate against the price discovery in the pre-pack process. The researchers have analysed various judicial pronouncements in foreign countries, mainly UK and USA, which have contributed to the strengthening of the pre-pack regimes in those countries. The study cites that successful pre-pack resolutions have preserved employment and helped maximise the value of the firms in foreign jurisdictions.

Mandloi (2021) analysed the PPIRP as a hybrid model of informal and formal procedures of rehabilitation of the financially distressed corporate debtors in the MSME sector. The researcher has touched upon the evolution of Indian PPIRP by incorporating the best practices of the pre-pack processes in Singapore, France, UK and USA.

Apte and Das (2021) have examined the conduct of insolvency of MSME under the IBC, 2016, and have analysed the multi-pronged strategy of the governmental measures like Partial Credit Guarantee Scheme for enhanced credit lines by Banks and Non-Banking Financial

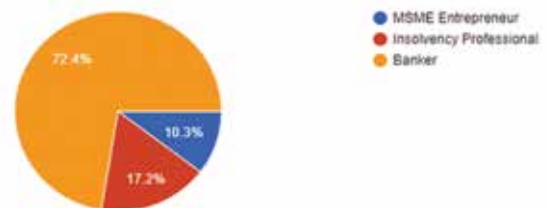
Companies (NBFCs), RBI's moratorium, etc. to fight the unprecedented financial stress faced by the MSME sector during the pandemic. The authors are of opinion that PPIRP framework under the Code may not be restricted to corporate MSMEs, similar rescue mechanism may be devised under the IBC for the resolution of stressed non-corporate MSMEs for their revival.

Research Objective:

To analyse the reasons for slow progress in the resolution of distressed MSMEs under the PPIRP of the IBC, 2016.

Research Methodology:

The purposive sampling technique was employed for the study due to its qualitative nature and lesser availability of domain experts. The sample size consisted of 80 professionals across the country and they were administered a structured questionnaire. The professionals comprised senior bankers (of Chief Managers' cadre and above, and Law Officers), Insolvency Professionals and MSME entrepreneurs. The number of respondents to the study aggregated to 58. A break-up of the respondents is as under:

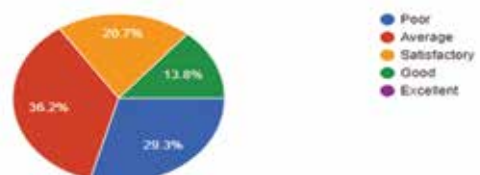


Data Analysis:

Analyses of the responses received are deliberated as under:

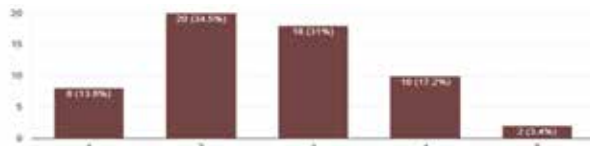
Level of awareness of PPIRP among the stake-holders:

The main stake-holders in the pre-pack are Corporate Debtors (MSME borrowers), Financial Creditors and Resolution Professionals. The study reveals that the level of awareness of the PPIRP, which was supposed to be a trendsetter in pre-pack insolvency resolution in the country is abysmally low among the principal stake-holders. 65% of respondents rated awareness level to "Average and Below".



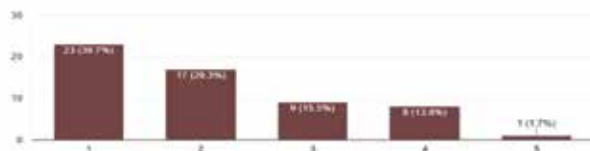
Lack of transparency in Pre-pack administration:

The PPIRP is a “debtor-in possession” insolvency resolution process, in which ensuring transparency may be difficult as there will be gaps in information availability. The Sub-committee of the ILC (2020) had flagged the concern as to the lack of transparency before the sale in pre-pack administration which stands proved by the responses received. 79% of the respondents rate the lack of transparency in the PPIRP in the linear scale of 1-5 (1. Strongly Agree, 2. Agree, 3. Neither Agree/Disagree, 4. Disagree, 5. Strongly Disagree).



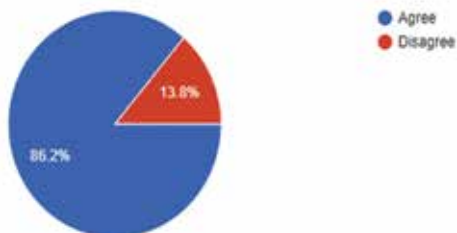
Insufficiency of marketing for Pre-pack sales:

84% of the respondents perceive that inadequate marketing of pre-pack sales due to its inherent opacity in the process may be a stumbling block to the price discovery and may lead to less money to the creditors. This may dent the confidence of the financial creditors in the pre-pack process. The responses are in the linear scale of 1-5 (1. Strongly Agree to 5. Strongly Disagree)



Post-insolvency financing:

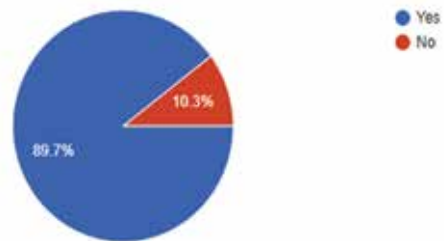
86% of the respondents feel that the post-insolvency financing of the MSMEs is limited. The major sources of funding for MSMEs generally accrue from friends and relatives. Moreover, the Banks generally shy away from refinancing the MSME units taken over by the new management. Also, the MSMEs find it difficult to cover costs and fees for the insolvency procedure.



Fear of hair-cuts & accountability:

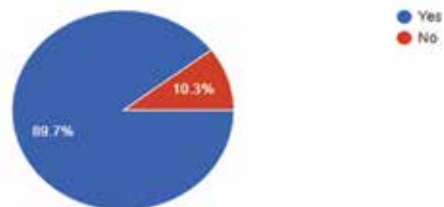
The PPIRP for MSMEs is a debtor-friendly pre-pack process and it invariably, entails voluntary haircuts/sacrifices without right of recompense unlike normal restructuring, wherein Banks reserve rights to recover the

amount foregone when the unit starts normal functioning and earns profit. The loans to the MSMEs are generally small/ medium ticket ones and are sanctioned by the officials lower in the hierarchy of the banks. The study reveals that whopping 90% of the respondents are wary of haircuts and fear accountability from both internal and external agencies.



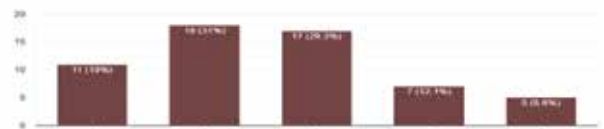
Slow decision-making of the Committee of Creditors (CoC):

90% of respondents perceive the decision-making of members of CoC in a PPIRP may be slow as experienced from the normal CIRP. There is an urgent need to empower the members representing the Banks/ Financial Institutions for taking timely decisions on the pre-pack resolutions



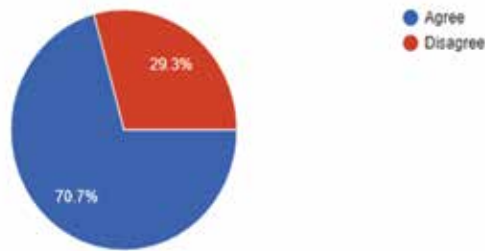
Fear of losing control over the enterprise:

Most of the MSMEs are purely promoter-driven enterprises. 50% of the respondents expressed that the Corporate Debtors fear loss of control over the unit in the eventual departure from the Base Resolution Plan resulting in Best Alternative Plan (Swiss Challenge Method) / CIRP/ Liquidation of the units. The responses are in the linear scale of 1-5 (1. Strongly Agree to 5. Strongly Disagree).



Consideration for the future viability of the new company:

71% of the respondents have expressed that no consideration for the future viability of the new business arising out of pre-pack sale has been accorded. The RP is not legally bound to look at the future viability as her/his own responsibility is to the creditors of the old business.



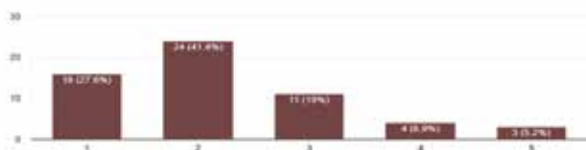
Impact of concurrent Covid-19 mitigant schemes on PPIRP:

When the PPIRP was introduced in April, 2021, there were two specific schemes in operation to mitigate the unprecedented Covid-related stress faced by the MSME sector:

- i. Emergency Credit Line Guarantee Scheme (ECLGS) by providing the eligible MSME units with additional funding up to Rs.5 lakh crores by the lending institutions. The exposure so extended by the Banks/NBFCs are to be guaranteed by the National Credit Guarantee Trustee Co. Ltd. of the Government of India. The Scheme is operative up to 31/03/2022.
- ii. RBI's Resolution Framework 2.0 envisaged restructuring of the existing stressed loans up to Rs.25 crores (standard as on 31/03/2021) without a downgrade in the asset classification. The scheme was in vogue up to March 31,2022.

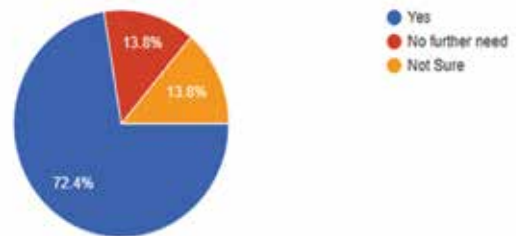
Both the above schemes were considered advantageous to the lenders as there was no write down of the principal amount, offered reasonable moratorium on loan repayment, ECLGS was the GoI guaranteed and another one was prescribed by the regulator.

69% of the respondents are of opinion that the above two specific schemes might have impacted the performance of the PPIRP. Majority of the respondents (74%) feel the PPIRP may take off after the expiry of both ECLGS and RBI's Framework of Resolution. The responses are in linear scale of 1-5 (1.Strongly Agree to 5.Strongly Disagree).



Redefining roles of NCLT and IPs:

Unlike active roles played by the IP as IRP/RP and Adjudicating Authority in CIRP, the role of RP is more as a "Monitor" and that of AA "Referee" in case of PPIRP. 72% of the respondents favour redefining the roles of the RP and AA to make pre-pack a success.



Summary of Analysis of the Findings:

The findings of the study can be briefly summarised as under:

- i. The awareness level on the pre-pack insolvency resolution process is very low.
- ii. Lack of transparency and insufficient marketing hinders price discovery.
- iii. The haircut being a suo moto in nature, the bankers are reluctant to initiate the process of their own.
- iv. The ECLGS has given a window of opportunity to the Banks/NBFCs to extend emergency assistance to the distressed MSMEs instead of cumbersome pre-pack resolution process. Their additional funding is having guarantee cover from the GoI.
- v. To accelerate the PPIRP, the IPs' role needs a relook.

The PPIRP for MSMEs is a debtor-friendly pre-pack process and it invariably, entails voluntary haircuts/ sacrifices without right of recompense

Conclusion and Recommendations:

The PPIRP was a well-thought out change in the Code, brought out by adapting the best of pre-pack practices of other countries, notably UK, USA and Singapore. But it is not finding takers in India due to a variety of factors as deliberated above. The study reveals no apparent flaw in the pre-pack process, but what merits attention is its implementation and allaying the perception of the stakeholders. A few suggestions to improve its functioning are as under:

- i. Any new legislation requires awareness among the stake-holders. For example, to give initial fillip to the CIRP under IBC, in June 2017, RBI directed the Banks to initiate the resolution process of 12 large accounts (constituting 25% of the gross NPAs of the banks) which yielded timely and tangible results. The PPIRP, being a voluntary exercise by both the corporate debtor and the banker, their initial fears needs to be addressed. The Insolvency & Bankruptcy

Board of India and RBI may take the lead in this regard.

- ii. The CoC has a crucial role in success of the pre-pack resolution. It should comprise personnel conversant with nuances of MSME credit, restructuring and recovery for a timely decision making.
- iii. A uniform indicative policy directive to the banks may be formulated by the RBI on the issue of “haircuts in the PPIRP”.
- iv. As to the issue of accountability, it may be appreciated that credit decisions are the judgement of risks at a point of time. Hence, the bank officials need to be insulated from future accountabilities for all bonafide decisions taken by them on stressed/ NPA accounts, and witch-hunts by both the internal agencies in the bank viz. Inspection and Vigilance departments; and external agencies, mainly CVC should be avoided.
- v. The role of the RPs is quite passive in the pre-pack process. They being well acquainted with the PPIRP should be given a more active role to make the resolution process smoother and faster.
- vi. Experience in foreign jurisdictions shows that pre-packs have been successful in preserving the enterprise value. Now that ECLGS is lapsing on March 31,2023, the PPIRP offers a ray of hope for the stressed MSMEs, who are susceptible to shocks in the economy with spiralling inflation, looming recession in the advanced economies and are prone to sickness.

Limitations and Further Research:

The study was conducted mainly to examine the factors contributing to the slow progress of the PPIRP. The amendment to the Code is a nascent one, and the time period of the study was short. However, it offers further research on the following aspects of the PPIRP:

- i. What could be the impact of PPIRP in job preservation and value maximisation of the stressed MSMEs?
- ii. The impact of timely/ delayed pre-pack resolution in success/ failure of the enterprise value. MA

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AN EXPLORATORY STUDY OF THE RELATIONSHIP AMONG CORPORATE SOCIAL IRRESPONSIBILITIES, REPUTATION OF THE FIRM AND SOCIAL MEDIA COMMUNICATION

Abstract

A case of Indian real estate sector has been taken to examine the relation among corporate social irresponsibility and reputation of the firm. A self-constructed questionnaire, named “Employees Respondent Measurement Scale” was administered on the employees working in real estate sector to collect primary data. Various architects, engineers, project in charges, technical and non-technical staff were taken as respondents. The total sample size was 350. Post reliability and validity check, regression analysis was done to interpret the relationship. It was found that corporate social irresponsibility harms the reputation of the firm. Thus, firms in order to create a good reputation must be engaged in activities that depict responsible behavior and should avoid irresponsibility.

PREAMBLE

“Satyam Computers,” once a renowned company of the Indian Information Technology sector (IT sector), was into lime light in 2009 due to financial fraud by its founders. This case sheds light on the role of CEO in elevating the company’s success to new heights, CEO’s relationship with the board of directors and the formation of key committees, and various issues pertaining to financial misconduct etc. Yet, the company got Golden Peacock award in 2002 and also in 2008, a prestigious reward on Corporate Governance, besides Asian Corporate Social Responsibility award and UK Govt award on Corporate Social Responsibility (CSR) in 2007 and 2008 respectively. Similarly in 2015, Volkswagen, a very reputed German automobile giant till now, was involved in a corporate fraud that affected 11 million vehicles. No doubt, such fraud had shocked not only the clients but also the business community and consequently took a toll in reputation and trust of its stakeholders. Surprisingly, the intricacies became very high when the firm claimed itself in the same year as one of the leading “corporate citizen” on its webpage under the section of Corporate Social Responsibility. There have been many such instances where the firm on one side claim to be undertaking responsibility towards society and surprisingly on the other side get engaged in negative activities that lead to social and economic consequences.



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CSR concepts are as old as the business itself in India. It is all there mentioned even in Vedas, Upanishads, Ramayan and Mahabharat

Striking very straight looking at such facts of unethical practices in implementation of CSR and integrating the same with the concept of irresponsibility in organisations, corporate engagement specialist of UNICEF, Ruchira Gujral, points out that “today the focus is now on the amount of money a corporate house gives to what cause ignoring the fact to question on how they made that money”. In case we see the global context, it is very clear that the government is totally ignoring the wrong functioning of the corporates, those which are contributing to CSR activities.

CSR AND CSI

CSR concepts are as old as the business itself in India. It is all there mentioned even in Vedas, Upanishads, Ramayan and Mahabharat. This culture of helping the fellow community members and practising CSR is reflected in almost all religions, like Muslims practice “Zakat”, Hindus practice “Dharmada” and Sikhs practice “Daswandh” and Christians follow the concept of “Tithe”. The good concept behind is helping the needy and poor.

Of course, India became the first country that made CSR mandatory in 2013. In Company’s Act the government

made it compulsory that any business which had a net profit of five hundred lakhs or more, to pay 2% of their net profit in CSR activities, which includes eradication of hunger, poverty, malnutrition, empowerment of women, skill development training, setting up of hospitals, education centres.

The term CSI was said to be coined or introduced by Armstrong (1977, p.185) in an article in the journal of Business Research as “A socially irresponsible act to accept an alternative that is thought by the decision maker to be inferior to another alternative when the effects upon all parties are considered. Generally, this involves gain by one party at the expense of the total system.” is defined as “the inability of the businesses to come up to the expectations of the society”. (Herzig, 2013) Irresponsibility of a firm can be in the form of bribery, corruption, degradation of the environment, contribution to pollution, or poor utilisation of scarce resources.

OBJECTIVES

To study the role of social media in reducing corporate social irresponsibility (CSI).

To analyze the relation between firms irresponsibility (CSI) and firm’s reputation.

METHODS

In order to measure these objectives, following variables and items have been identified and selected as depicted in Table 1

Table-1: List of Variables and Items

Variables	Items	No. of items
Social Media and Corporate irresponsibility	Social Media plays a vital role in establishing CSR practices in a firm.	5
	Social media activities cultivate corporate social responsibilities	
	Corporate irresponsibility’s are caused by ineffective use of Social Media	
	Social media helps in tranquilizing corporate social irresponsibility’s	
	Social media impacts both CSR and corporate irresponsibility’s	
Corporate irresponsibility and corporate reputation	Reputation of the company is important for building corporate social responsibilities (CRS)	5
	Effective corporate social responsibilities foster good reputation of company	
	Corporate reputation of the company largely depends on societal responsibilities undertaken by the firm.	
	Corporate social irresponsibility creates negative reputation of the firm.	
	To have a good brand image and reputation of company, firms should leave no space for any corporate social irresponsibility	
Total Items		10

Source –Self constructed

To measure the impact of social media communication on CSI and reputation, we distributed a “Nominal” and “Five Point Likert Scale” questionnaire to 350 real estate employees working in Delhi NCR.

Impact of Social Media in mitigating the corporate Irresponsibility

To achieve the proposed objective “To explore the impact of social media in mitigating the corporate irresponsibility” we conducted one sample t-test was conducted and the results are computed in table 2

Table-2

Group	N	Hypothesize Mean	Mean	S.D	Mean Difference	t-ratio	p-value
Overall Impact	350	25	19.33	05.04	05.67	082.71	0.000**
Impact of Item -1	350	5	03.51	1.221	01.49	48.26	0.000**
Impact of Item -2	350	5	04.11	0.581	0.89	38.51	0.000**
Impact of Item-3	350	5	03.87	1.412	01.13	51.40	0.000**
Impact of Item-4	350	5	04.22	0.664	0.78	39.91	0.000**
Impact of Item -5	350	5	03.45	1.322	01.55	50.01	0.000**

Source- Primary Data

Since p value is 0.00 therefore, the proposed objective “To study the impact of social media in mitigating the corporate irresponsibility” has been **achieved**. Furthermore, null hypothesis “**H₀** There is no significant impact of social media in mitigating the corporate irresponsibility” is being **rejected**.

Further, the area graph constructed below clearly indicates that sample mean scores of employees’ is lying under which level of agreement category towards impact of social media in mitigating the corporate irresponsibility” based on the table 3

Self-constructed

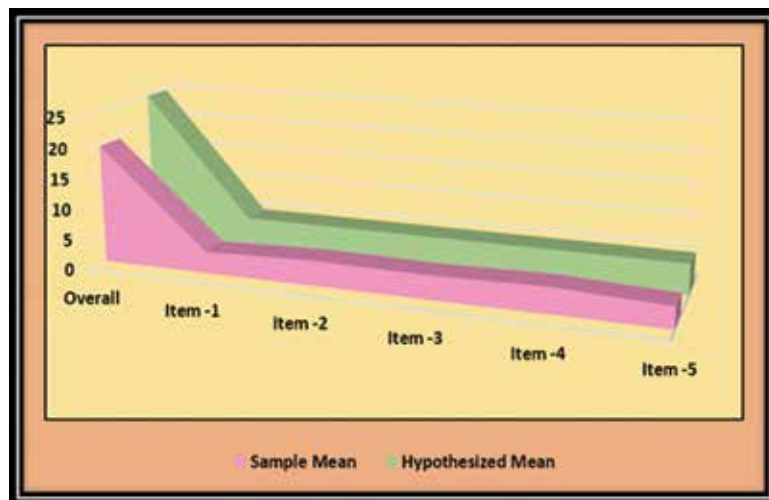


Figure-1: Area graphs for employees’ awareness towards impact of social media towards mitigating the corporate irresponsibility

From figure-1, it is clear that social media is significantly impacts in mitigating the corporate irresponsibility among real estate companies.

Relationship between Corporate Social Irresponsibility (CSI) and the Reputation of a firm

In order to measure the relationship between corporate social irresponsibility (CSI) and reputation of real estate companies Pearson correlation coefficient, Coefficient of determination R² and Share of independent were calculated to investigate the relationship. The results depicted in table 3.

Table-3: Model Summary for reputation of the firm (independent variable) and corporate social irresponsibility (Dependent variable) undertaken by real estate companies

Variable	R	R ²	Share of Independent Variable (%)	Dispersion of Regression Line	p-value
CSI (DV)	-0.871	0.759	75%	04.17	0.000**
Reputation of Firm (IV)					
CSI (DV) item -1	-0.791	0.625	61%	03.92	0.000**
Reputation of Firm (IV) item -1					
CSI (DV) item -2	-0.844	0.712	71%	04.88	0.000**
Reputation of Firm (IV) item-2					
CSI (DV) item-3	-0.845	0.714	71%	05.62	0.000**
Reputation of Firm (IV) item -3					
CSI (DV) item -4	-0.822	0.675	67%	05.09	0.000**
Reputation of Firm (IV) item -4					
CSI (DV) item -5	-0.796	0.633	63%	04.91	0.000**
Reputation of Firm (IV) item -5					

****Significant at 0.01 level**

Hence the proposed objective “To study relationship between corporate social irresponsibility (CSI) and the reputation of a firm” is achieved. Also hypothesis “**H₀** There is no significant relationship between corporate social irresponsibility (CSI) and the reputation of a firm” is also being **rejected**. It can be concluded that: real estate firms to establish better brand image and have good reputation, they must engage in good corporate practices and should avoid irresponsibility’s which could harm their reputation.

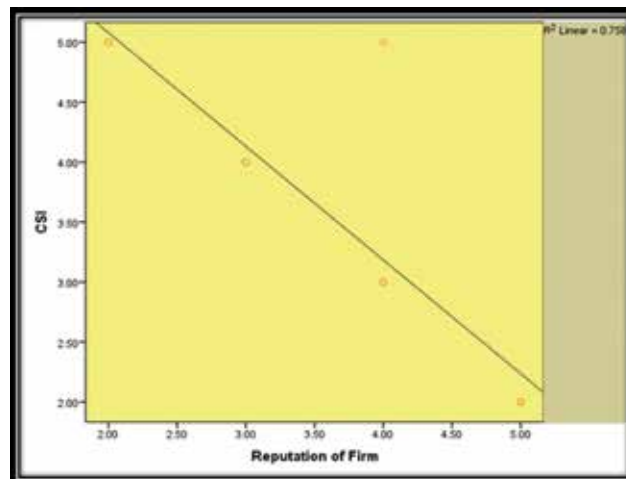


Figure-2 Scatter plot of Reputation of Firm and CSI

The scatter plot of reputation of firm and Corporate Social Irresponsibility clearly depicts a very high negative correlation between corporate social irresponsibility and reputation of real estate companies in the study area. As corporate social

irresponsibility spoil and damage the reputation of the real estate firms and vice-versa.

In view of investigating the relationship among social media activities, social media usage, corporate social irresponsibility and reputation of firm multivariate correlation coefficient has been performed along with SEM (Structural Equation Modeling) and results are computed in table-4.

Table-4: Relationships among social media activities, social media usage, corporate social irresponsibility and reputation of firm

Variable	Social media activities	Social media usage	Corporate social Irresponsibility	Reputation of firm
Social media activities	1.000	0.924**	-0.781**	0.802**
Social media usage		1.000	-0.832**	0.851**
Corporate social Irresponsibility			1.000	-0.871**
Reputation of firm				1.000

Table-4 depicts the multivariate relationships among social media activities, social media usage, corporate social irresponsibility and reputation of firm, where is it found social media activities has very high positive correlation with social media usage as if social media activities increases such as marketing, promotions and brandings then social media usage and reputation of the firms automatically get promoted and enhanced and vice-versa. Whereas in case of corporate social irresponsibility, if social media activities get promoted then social corporate irresponsibility get minimize and vice versa.

Furthermore, social media usage also has high positive correlation with reputation of the firms (0.851) and high negative correlation with corporate social irresponsibility (-0.832). As if social media usages increase's such as through marketing, sales, promotions and brandings then reputation of the firms automatically get promoted and enhanced and vice-versa. Whereas in case of corporate social irresponsibility, if social media usages get promoted then social corporate irresponsibility get minimize and vice-versa. Additionally, high negative correlation (-0.871) also exist between corporate social irresponsibility and reputation of the firms as corporate social irresponsibility keep increases in any organization then reputation of the firms get diminishes and leads to negative impacts.

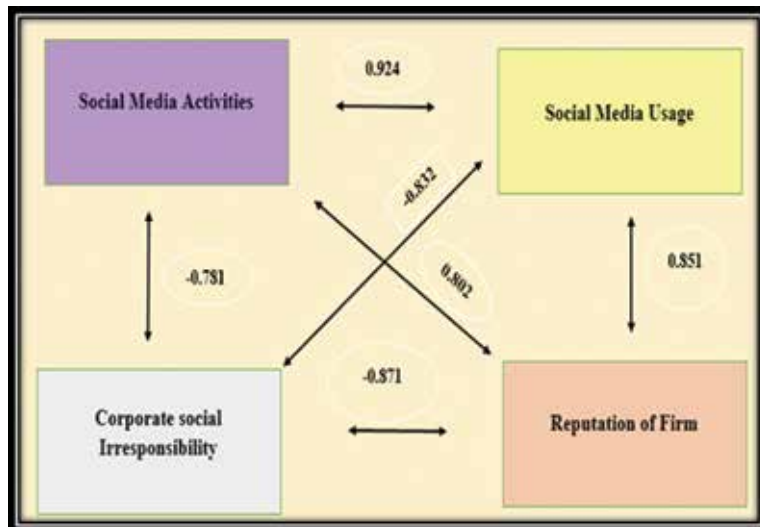


Figure-3: SEM Model Output MA

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BOOK REVIEW

Book Name :	First Thirty Years of IAA Research Foundation: 1991-2020
Author :	Dr. Bhabatosh Banerjee
Published by :	IAA Research Foundation (Indian Accounting Association Research Foundation)
Price :	₹400/-

The book 'First Thirty Years of IAA Research Foundation: 1991-2020' by Dr. Bhabatosh Banerjee is self-explanatory about its contents by virtue of its title. Dr. Bhabatosh Banerjee who is the present President of IAARF is a well-known academician of high repute in the field of Accountancy. With many reference books and texts to his credit, he also claims the honour of being one of the founder members of the IAA Research Foundation. As such, his first-hand engagement as a founder member and academician with IAARF contributes greatly towards the rich and in-depth study of the thirty years of IAA Research Foundation that this book presents. The book is thus, enriched with his vast experience and knowledge of the origin and evolution of this institution of high research.

This book is the result of the painstaking research that Dr. Banerjee has undertaken to compile a critical and informative journey of the IAA Research Foundation, beginning from its inception in 1991 to the completion of its three decades in 2020. The book is impressive as a record of the history of a research institution that has greatly contributed towards the development and coordination of higher academic activities pertaining to the dissemination of knowledge in the arena of accounting and other allied areas. It tells how promoting and sponsoring fundamental empirical research has been the avowed objective of the IAARF while also recording how over the years it has achieved international trust and repute. The book, thus serves the two-fold interest of the historian as well as anyone interested in the development of research into Accountancy in India.

'First Thirty Years of IAA Research Foundation: 1991-2020' is also rich in terms of data and documentation. The volume contains detailed record of the significant event of the Foundation as well as incorporates a large number of tables that contain data of the various articles

published in the initial volumes of the Indian Accounting Review. Another notable aspect of the volume are the short bio-notes of the contributors to the initial volumes of Indian Accounting Review. These bio-notes serve as follow-ups to the later occupations of the contributors in the academia. The excerpts from many papers that are included in this volume allow a glimpse into the in-depth nature of writings of the contributors in the Indian Accounting Review. The volume is also highly enriched with the inclusion of photographs from different sessions of the Foundation's International Conferences.

These photographs provide an interesting visual narrative to the painstakingly achieved compilation by Dr. Banerjee.

At the same time, this book by Dr. Banerjee does not hesitate to look into the operational challenges that the IAARF faces. By drawing focus and discussing the challenges, the author has ascertained that the organization shall continue to function and thrive in the present and the future. The reference to emerging areas of research and newer domains provides a futuristic road-map to the organization and also testifies to his sincerity and dedication to the organization.

On the basis of its merit, this book will serve as a ready-reckoner and in-depth guide for any academician or researcher keen on understanding the first thirty years of the history of IAARF. This volume stands as a significant contribution to the

field of Accountancy as a whole and I am confident that it will inspire further interest and research in the subject.

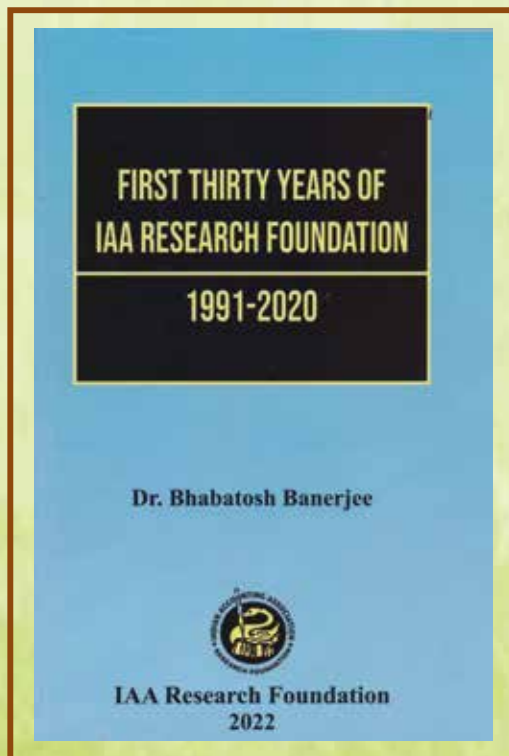
Reviewed by:

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Vice Chancellor

Rajiv Gandhi University, Arunachal Pradesh

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DIGITAL OBJECT IDENTIFIER (DOI)

Issue: June - 2022 [Vol. 57 No. VI]

Name of The Theme Article	Name of Author/s	Volume	Issue	Issue No.	Page No.	DOI Numbers
A STUDY ON THE AGRI STARTUPS IN INDIAN SCENARIO	Dr. Arindam Banerjee	57	Jun-22	6	49-52	10.33516/maj.v57i6.49-52p
ARTIFICIAL INTELLIGENCE (AI) BASED SMART AGRICULTURE FOR SUSTAINABLE DEVELOPMENT	Gurwinder Kaur Dr. Barinderjit Singh Dr. Anil Kumar Angrish CMA (Dr.) Sanjeev K.Bansal	57	Jun-22	6	54-57	10.33516/maj.v57i6.54-57p
DOUBLING FARMERS' INCOME BY 2022: THE PROGRESS SO FAR AND FUTURE COURSE OF ACTION	Prof. Deepika Aggarwal	57	Jun-22	6	59-62	10.33516/maj.v57i6.59-62p
THE PERSPECTIVE OF ADVANCED TECHNOLOGY IN AGRICULTURE: AN INITIATIVE TO HELP INDIAN FARMERS	Talsaniya Gauravkumar Kanaiyalal Dr. Kunal Sinha	57	Jun-22	6	63-67	10.33516/maj.v57i6.63-67p
ESG AND SUSTAINABLE AGRICULTURE: FOCUS ON 'TRUE COST' OF AGRICULTURAL OPERATIONS	CMA (Dr.) S.K. Gupta Jaya Gupta	57	Jun-22	6	68-71	10.33516/maj.v57i6.68-71p
AGRICULTURAL RESEARCH, DEVELOPMENT AND EXTENSION (ARD&E) IN INDIA: THE KEY TO FOOD SECURITY	CMA Ela Sen	57	Jun-22	6	72-75	10.33516/maj.v57i6.72-75p
DIFFUSION AND ADOPTION OF AGRICULTURAL TECHNOLOGY AMONG THE FARMER HOUSEHOLDS: A STUDY OF FARMER HOUSEHOLDS IN KUTTANAD, KERALA	Dr. Pradeep Kumar B Dr. M. N. Anitha	57	Jun-22	6	76-79	10.33516/maj.v57i6.76-79p
AGRI COST MANAGEMENT AND PROFITABILITY: ROLE OF FUTURES MARKET IN INDIA DURING COVID-19 PANDEMIC	CMA (Dr.) Surajit Dawn	57	Jun-22	6	80-85	10.33516/maj.v57i6.80-85p

Issue: July - 2022 [Vol. 57 No. VII]

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NEED FOR CLOUD SECURITY AUDIT	CMA Arnab Chatterjee	57	Jul-22	7	32-34	10.33516/maj.v57i7.32-34p
INDIVISIBILITY OF INTERNAL AUDIT AND CORPORATE GOVERNANCE - AN INTRIGUING CASE STUDY OF LISTED INDIAN COMPANIES	CMA Avik Ghosh	57	Jul-22	7	35-38	10.33516/maj.v57i7.35-38p
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IS THERE A NEXUS BETWEEN INTERNAL AUDIT AND CORPORATE GOVERNANCE?	Samrat Banerjee	57	Jul-22	7	72-73	10.33516/maj.v57i7.72-73p

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Name of The Article	Name of Author/s	Volume	Issue	Issue No.	Page No.	DOI Numbers
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FOUR BLOCKS OF ATTRIBUTES OF A HIGH PERFORMING EMPLOYEE	CMA Mrutyunjaya Mohanty	57	Jul-22	7	89-90	10.33516/maj.v57i7.89-90p
DYNAMIC INFORMATION FLOW BETWEEN SPOT AND FUTURE MARKETS IN AGRICOMMODITIES MARKETS IN INDIA	Vivek Chandra Kuchhal Dr. Anil Kumar Parti Dr. Ravi Kumar Gupta	57	Jul-22	7	91-96	10.33516/maj.v57i7.91-96p

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Name of The Article	Name of Author/s	Volume	Issue	Issue No.	Page No.	DOI Numbers
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INCHING CLOSER TO THE AGENDA 2030:IMPACT INVESTMENT AND POTENTIAL OF SOCIAL STOCK EXCHANGE IN INDIA	CMA (CS) Puzhankara Sivakumar Dr. Ranjith Krishnan CS Anju Panicker	57	Aug-22	8	33-36	10.33516/maj.v57i8.33-36p
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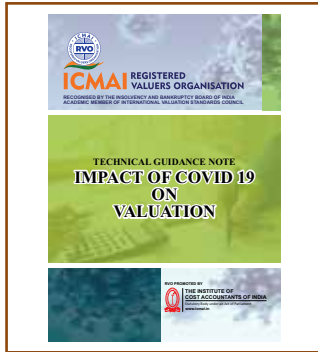
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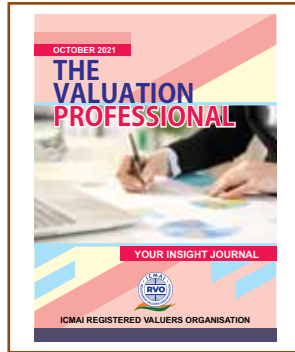
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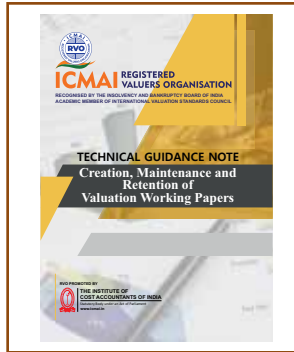
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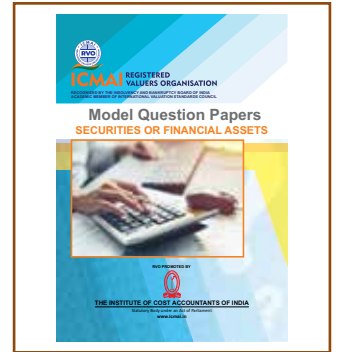
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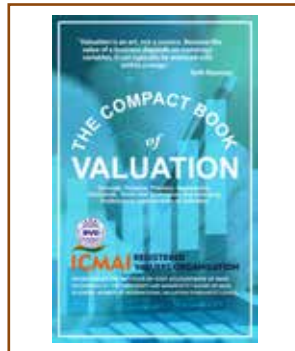
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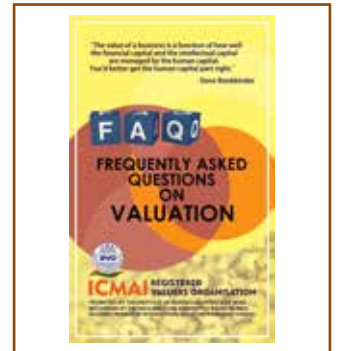
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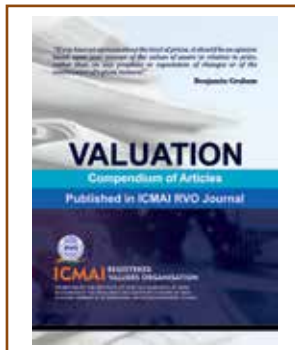
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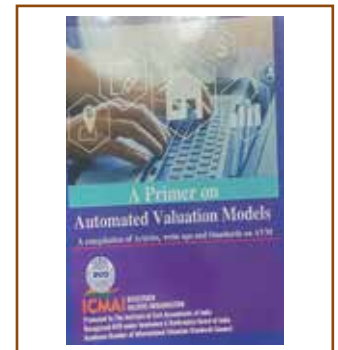
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Down The Memory Lane

October 2012



Lighting of the sacred lamp by CMA S.C. Mohanty, Vice President of the Institute at the Joint Conference of the Institute with ASSOCHAM at India Habitat Centre, New Delhi on 18.10.2012, Also seen Prof. K.V. Thomas, Hon'ble MoS (IC) for Consumer Affairs, Food & Public Distribution. Shri D.S. Rawat, Secretary General, ASSOCHAM (extreme right), Shri Sanjay Mitra, Head (Indirect Taxes), ITC Ltd.



Inauguration of CMA support Centre at Pudukkottai, Tamil Nadu on 13.10.12 by Shri V. Kuthik, Thoandaiman, Hon'ble MLA of Pudukkottai.

October 2002



Workshop on Cost management in Hotel Industry. Seen from right: Dr. K. L. Jaisingh, Vice-President; B.V. Ramana Murty, President, Secretary (Finance), Haryana and Ashwani Sekhri, Hon'ble Minister for Industries and Tourism, Punjab.



ICWAI Students' Carnival, Sitting from Left: Sanjay Bhargave, Treasurer; Kirti Mehta, Past Chairman; V.V. Deodhar; Keval Handa, ED, Pfizer Ltd., Ramesh Joshi, Secretary.

Down The Memory Lane

October 1992



Some of the delegates of the ICWAI at the XIVth World Congress of Accountants held at Washington DC, USA, during October, 11-14, 1992. Seen in the Picture from Left to Right are: Shri. P.D. Phadke; Dr. S. Chakraborty of IIMC; Shri V. Kalyanaraman; Dr. G.B. Rao; Mrs. Rama Kashinath and Shri S. R. Acharyya.



Shri V. Kalyanaraman; Shri P.D. Phadke and Shri S R Acharya are seen with Mr. Peter Agars, newly elected President of the IFAC during IFAC Assembly and XIVth World Congress of Accountants.

October 1982



ICWAI Delegation to Mexico Congress of Accountants.



A Seminar on "Assessable Value for Central Excise" was held on 23rd October, 1982 at Gujarat Chamber of Commerce Hall. Shri B.J. Diwan, Ex-Chief Justice of Gujarat High Court summing up the discussion at the Seminar on Assessable Value for Central Excise.

Source: Extracted from the various issues of *The Management Accountant Journal*



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Course Content

Information Systems Audit

(Weightage - 80%)

- Overview of IS Security & Audit
- Compliance and Security Framework
- Business Continuity & Disaster Recovery
- Cyber Security and Cyber Forensics
- Business Application – Acquisition, Development & Implementation
- IT Audit in Banking Sector
- IT Audit in SAP Environment

Cloud Computing Management Audit

(Weightage - 20%)

- Understanding Cloud Computing
- Adopting the Cloud
- Calculating the Financial Implications
- Migrating to the Cloud

Duration

- Live session (80 hours) & E-learning (20 hours)

Course Highlights

- Interactive Live Online Classes
- Eminent Faculty & Reputed Experts
- Online Assessment
- Certification on Completion
- Become Information System Security Auditors

Discounted Course Fee

- Qualified CMAs - INR 18,000/- + 18% GST
- Final CMA Students - INR 15,000/- + 18% GST

For more details, please visit:
https://icmai.in/Advanced_Studies/DISSA/index.php



Diploma in Forensic Audit

Course Modules

Module - I

Introduction to Forensic Audit, Applicable Laws & Regulatory Environment [40 Hrs]

Module - II

Fraud Risk Management, Applicable Standards & Best practices, Financial Forensics & Forensic Audit Techniques [30 Hrs]

Module - III

Fraud Examiner, Engagement Management, Documentation & Quality Control [20 Hrs]

Module - IV

Ethical Considerations, Code of Conduct in Fraud Examination & Forensic Audit, Professional Opportunities [10 Hrs]

Duration

- On-line Mode: 100 Hours [Duration: 6 months]

Course Highlights

- Online Assessment Test: 100 Marks
- Qualifying Marks: 50%
- Certification on Completion

Discounted Course Fee

- Qualified CMAs - INR 18,000/- + GST
- Final CMA Students - INR 15,000/- + GST
- Online Assessment Fee: INR 1,000/- + 18% GST

For Online Admission, please visit:
<https://icmai.in/ADVSCC/Course-Selection.aspx>



Online Advanced Certificate Course in Internal Audit

Course Modules

Module - I

Introduction and Overview of Internal Audit (8 hrs)

Module - II

Planning and Executing Internal Audit (10 hrs)

Module - III

Internal Audit Skills & Techniques (16 hrs)

Module - IV

Internal Audit of Specific Functions (16 hrs)

Duration

- 50 hrs Online Live Sessions

Course Highlights

- Case Study based
- Expert faculty from the Industry
- Online Assessment: 100 marks (MCQ based)
- CPE Credit of 10 hours will be given to the members (as per CEP guidelines)
- Qualifying Marks: 50%

Course Fee

- Members / Qualified CMAs - INR 9,900 /- + 18% GST
- CMA Final Level Students - INR 7,500 /- + 18% GST

For Online Admission, please visit:
<https://icmai.in/ADVSCC/Course-Selection.aspx>

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NEWS FROM THE INSTITUTE



EASTERN INDIA REGIONAL COUNCIL

EIRC Under the initiative of its Professional Development Committee organized a CEP on “Handling GST Litigations: Scrutinies, Assessments & Audits” on 28th August, 2022 at the EIRC premises. CMA Nirmal Meharia Director- Finance & Operations, Supertron Electronics Ltd. and Shri Vivek Jalan, Chairperson- Fiscal Affairs Committee, The Bengal Chamber of Commerce & Industries, were the Guest Speakers. CMA Biswarup Basu, Immediate Past President & CCM, ICAI, CMA Chittaranjan Chattopadhyay, CCM, ICAI, CMA Abhishek Kumar Singh, Secretary, EIRC, and CMA Nishant Kumar Singh, IPC & Chairman – PD Committee, EIRC graced the occasion. There was an overwhelming response from the members.

The Regional Council organized another CEP on “Intricacies of Cost Audit: Practical Ways to Handle” under the initiative of PD committee on 12th September, 2022 at its Premises. CMA Somnath Mukherjee, Former Central Council Member, ICAI was the key speaker. CMA Abhishek Kumar Singh, Secretary-EIRC, delivered the welcome address. CMA Chittaranjan Chattopadhyay, CCM, ICAI also addressed the members. There was an overwhelming response from the participants.



(L/R) CMA Abhishek Kumar Singh, Secretary-EIRC, CMA C.R. Chattopadhyay, CCM-ICAI, CMA Nirmal Meharia Director- Finance & Operations, Supertron Electronics Ltd., CMA Biswarup Basu, Immediate Past President & CCM, ICAI, Shri Vivek Jalan, Chairperson- Fiscal Affairs Committee, The Bengal Chamber of Commerce & Industries, CMA Nishant Kumar Singh, Immediate Past Chairman & Chairman- PD Committee- EIRC on the Dais.



CMA Biswarup Basu, Immediate Past President & CCM, ICAI, presenting a memento to CMA Nirmal Meharia.



CMA Somnath Mukherjee Former CCM-ICAI & CMA Abhishek Kumar Singh, Secretary-EIRC on the Dais.

**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
BHUBANESWAR CHAPTER**

The Chapter successfully conducted a seminar on the theme “Accounting & Compliance relating to Related Party Transactions (RPT), Dividend and Schedule-III of Companies Act, 2013” on 28th August, 2022 at CMA Bhawan, Nayapalli, Bhubaneswar-12”. CS Bharat Kumar Sahu, Additional Company, NALCO Ltd., Bhubaneswar delivered on “Compliance relating to Related Party Transactions (RPT) and Dividend under Schedule-III” and CA CS Abinash Parida, Lead Business Consultancy & Assurance Entity and IFRS Trainer, Bhubaneswar delivered on “Accounting treatment under Schedule-III” as “Resource Person”. CMA Saktidhar Singh, Chairman, PD Committee and Past Chairman of the Chapter facilitated the entire programme. CMA Santanu Kumar Rout, Chairman of ICAI-Bhubaneswar Chapter delivered the welcome address and CMA Surya Narayan Tripathy, Secretary of the Chapter extended formal vote of thanks. The Chapter arranged for pursuing CMA Final students to visit SEBI Office at Bhubaneswar on 29.08.2022 to get an overall idea on basic understanding of the role & function of SEBI and Capital Market. The students of the Chapter celebrated the Teachers’ day at CMA Bhawan in a grand way on 05.09.22. The Chapter facilitated for signing of an MOU between The Institute of Cost Accountants of India and Kalinga Institute of Social Sciences (KISS), Deemed to be University at KISS Campus, Bhubaneswar, Odisha on 17.09.2022. CMA P Raju Iyer, President, ICAI signed the MOU in the presence of CMA Niranjana Mishra, Council Member and Chairman, Committee on Cost Management for Public and Government Services, ICAI, CMA Santanu Kumar Rout, Chairman, ICAI-Bhubaneswar Chapter and CMA Surya Narayan Tripathy, Secretary, ICAI-Bhubaneswar Chapter. On behalf of KISS, Prof. Deepak Kumar Behera, Vice Chancellor signed the MOU in the presence of Shri Sudipta Kumar Nanda, Faculty, Shri R N Swain, Faculty, Shri Udayan Mohanty, Faculty and Other Staff & Students. The chapter successfully conducted an “All Odisha CMA Practitioners’ Meet” on the theme “From Better to the Best – Journey of Practicing CMAs” on 18th September, 2022

at CMA Bhawan, Nayapalli, Bhubaneswar. CMA P Raju Iyer, President of the Institute inaugurated and graced the Meet as “Chief Guest”. CMA Dr. Ashish P Thatte, Council Member and Chairman, Corporate Laws Committee, ICAI delivered on “Ethics and insight to Cost Accounting Standards”, CMA Niranjn Mishra , Council Member and Chairman, Committee on Cost Management for Public and Government Services, ICAI delivered on “Avenues in Banking Sectors - Insight to stocks and receivable Audits”. CMA Ajay Deep Wadhwa, Past Chairman, ICAI-EIRC delivered on “Industry Expectation from Practicing Cost Accountants”, CMA Shiba Prasad Padhi, Past Chairman, ICAI-EIRC and Practicing Cost Accountant delivered on “Road Map for the Beginners and Scopes in Insurance Sectors”, CMA Suresh Chandra Pattanayak ,Practicing Cost Accountant delivered on “A Road Map on Valuation and Insolvency Professional” and CMA Asutosh Debata ,Vice Chairman , ICAI - Bhubaneswar Chapter and Practicing Cost Accountants delivered on “Project Financing & Management” as “Resource Person”. CMA Santanu Kumar Rout, Chairman of the chapter delivered the welcome address and CMA Saktidhar Singh, Past Chairman and Chairman PD Committee of the Chapter facilitated the entire programme & extended formal vote of thanks. The chapter conducted an MCQ Written Test at CMA Bhawan among pursuing CMA Final Students of the Chapter on 19.09.2022 to empanel their names on the basis of merit to recommend various Organizations from time to time for the purpose of Trainee/Engagement.



**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
SILIGURI GANGTOK CHAPTER**

On 17.08.2022, the Chapter conducted a Member’s Meet at Hotel Bengal International at Siliguri to discuss

various issues relating to the Chapter. CMA Chittaranjan Chattopadhyay, CCM and Chairman BFSI and CMA Arnab Chakraborty, Director, Finance of the Institute were present on the occasion. They discussed various issues regarding Chapter’s development and also highlighted the features of the New Syllabus,2022. The meet was a grand success.

On 18.08.2022 the Chapter conducted three Career Awareness Programmes at Mahbert High School,Siliguri. Siliguri College of Commerce Ext. Centre and Siliguri Surya Sen Mahavidyalaya. CMA Chittaranjan Chattopadhyay CCM and Chairman BSFI and CMA Arnab Chakraborty ,Director, Finance of the Institute successfully conducted the career awareness programme. The programme was followed by a quiz relating to the Institute /CMA Course and prizes were given to the winning students. After the program there was a meeting the Principal of Siliguri College of Commerce and the Chapter office bearers informed him regarding the CMA Course and its usefulness and benefits to the students. They also discussed the possibilities of signing an MOU between the College and the Institute on various short term courses conducted by the Institute.



**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
CHANDRAPURA CHAPTER**

The Chapter organized a career counselling programme for the plus two students of DVC High School. The programme had been initiated by CMA Rakesh Ranjan, Chairman, Chandrapura Chapter and followed by CMA R. K. Shukla, Secretary, Chandrapura Chapter. It was attended among others by CMA Manoj Madhukar, Executive Member of the chapter.



**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
SOUTH ODISHA CHAPTER**

The Chapter conducted Annual Members' and Students' Meet – 2022 on dated 04.09.2022 at Biju Patnaik Sanskruti Bhawan, Hillpatna, Berhampur. Hon'ble MLA, Berhampur Sri Bikram Kumar Panda graced the occasion as Chief Guest, Prof. (Dr.) Prafulla Kumar Mohanty, Vice-Chancellor, Khallikote Unitary University, Berhampur as Chief Speaker and CMA Niranjana Mishra, CCM-ICAI and Chairman – Committee on Cost Management for Public and Govt. Services graced as Guest of Honour, along with the dignitaries CMA Narasingha Chandra Kar, Chairman of the Chapter and CMA Ananda Sahu, Secretary of the Chapter occupied the dais. CMA Narasingha Chandra Kar, Chairman welcomed all the dignitaries and spoke on the Chapter developments and brief history of the Chapter. Sri Bikram Kumar Panda, Hon'ble MLA assured the chapter management for extending all sorts of co-operation and help for the betterment of the Chapter. Sri Panda appreciated the Chapter for its fame & goodwill and conducting of activities in several sectors towards service to members, society and students. CMA Niranjana Mishra, CCM, ICAI spoke on different steps taken by the Institute towards development of the profession and advised the students to become knowledge based profession. Students are awarded prizes and certificates for their performance in different competitions held towards Celebration of "Azadi Ka Amrit Mahotsav". CMA Ananda Sahu, Secretary of the Chapter extended vote of thanks. In post lunch session, Mr. Prince Saroj Kumar conducted a Mind Training programme. Cultural programme was performed by the students of the Chapter and the session adjourned with the National Anthem.



NORTHERN INDIA REGIONAL COUNCIL

**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
JAIPUR CHAPTER**

As per the new Education Policy announced by Central Government, local languages are to be promoted. Accordingly, the Chapter took the initiative to publish E-News Bulletin of its activities for the period April to

August 2022 in Rajasthani Language. This E- News Bulletin has been inaugurated by Chairman of NIRC, CMA Shaillendra Kumar Paliwal and Chairman of Jaipur Chapter, CMA Sudarshan Nahar along with respective teams at a one-day seminar held at the chapter on 18th September 2022.



SOUTHERN INDIA REGIONAL COUNCIL

SIRC organized a professional development program on the Topic: "Provisions relating to Independent Directors/ Women Directors" held on 03.09.2022 at its premises. Guest Speaker was CMA Divya Abhishek, Member, Corporate Law Committee, ICAI. A Professional Development Meeting on the Topic: "Costing in Pharma Industry" was held on 10.09.2022 at SIRC Premises. Guest Speaker was CMA Venkatesa Sarma Viswanathan. Professional Development Meeting on the topic: "Performance Management in MSME" held on 17.09.2022 at SIRC Premises. Guest Speaker was CMA R. Venkataramani, Director, Westcott Electricals Pvt. Ltd., Chennai. A Professional Development Meeting on the Topic: "STOCK MARKETS & AVENUES" was held on 23.9.2022 at SIRC premises. Guest Speaker was Shri Shyam Sekhar, Chief Ideator, ithought advisory.



CMA H. Padmanabhan, Council Member, ICAI addressing PD meeting on "Provisions relating to Independent Directors/ Women Directors" on 03.09.2022

at SIRC Premises. Also seen (L- R) Speaker : CMA Divya Abhishek, Member, Corporate Law Committee, ICAI, CMA (Dr.) V. Murali, Council Members, CMA Rajesh Sai Iyer, Secretary, SIRC-ICAI.



Greeting the Guest Speaker, CMA Venkatesa Sarma Viswanathan by Past Chairman CMA R. Narayanan, SIRC-ICAI and CMA Rajesh Sai Iyer, Treasurer, SIRC-ICAI on 10.09.2022 at SIRC Premises for the PD meeting on the topic “ Costing in Pharma Industry”.



CMA Sankar P. Panicker, Chairman, SIRC-ICAI, greeting the PD meeting audience through VC on 03.09.2022.

**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
HYDERABAD CHAPTER**

The Chapter commenced offline coaching classes at the Chapter premises from 8th August,2022, after a two years’ break on account of Covid pandemic. CMA (Dr.) K.Ch.A.V.S.N. Murthy, Central Council Member, CMA Vijay Kiran Agastya – Secretary, SIRC – ICAI were present at the programme.

The Chapter conducted a number of events under the “Azadi ka Amrit Mahotasav” banner commemorating India’s 75th year of Independence. National Flags were distributed to the students as part of the” Har Ghar Tiranga” campaign to commemorate this significant anniversary.

The adoption of Ind AS is a welcome change and will play a key role in enhancing the comparability of financial statements of Indian companies with global standards. In view of its importance, the chapter conducted a programme



on August 13, 2022 on Ind AS. CA Lakshmi Nallamilli, Registered Valuer was the key speaker. CMA Vijender Sharma Vice President of the Institute and CMA (Dr.) K.Ch.A.V.S.N. Murthy -Central Council Member addressed participants. Smt. Nallamilli Lakshmi clearly explained the background and roadmap for implementing Ind. AS, its salient features List of Ind AS, financial statements, Transactions to Ind AS and key takeaways of Ind AS.

The Chapter celebrated ‘Azadi Ka Amrit Mahotsav (AKAM)’ to commemorate the 75 glorious years of a progressive Independent India on August 15, 2022. CMA K. Someswara Babu -Chairman, CMA S. Hima Vidya – Vice Chairperson, CMA Kanduri Lavanya , Secretary, CMA Khaja Jalal Uddin, Treasurer and Past Chairman / Chairperson CMA P. Chandra Sekhara Reddy, CMA K.V.N. Lavanya, CMA M. Venkateshwarlu, CMA (Dr.) Rajanala Chandra Sekhar attended this programme and inspired the students with their motivational speeches.

The Chapter carried out a number of events under the “Azadi ka Amrit Mahotasav” banner commemorating India’s Independence. National Flags were distributed to all students as part of the” Har Ghar Tiranga” campaign to commemorate the significant anniversary on August 13, 2022.

The Chapter celebrated ‘Azadi a Amrit Mahotsav (AKAM)’ to commemorate the 75 glorious years of a progressive Independent India. The National Flag was

hoisted in the premises with utmost respect. CMA K. Someswara Babu -Chairman, CMA S. Hima Vidya , Vice Chairperson, CMA Kanduri Lavanya , Secretary, CMA Khaja Jalal Uddin , Treasurer and Past Chairmen / Chairperson CMA P. Chandra Sekhara Reddy, CMA K.V.N. Lavanya, CMA M. Venkateswarlu, CMA Dr. Rajanala Chandra Sekhar were among those who attended this programme and inspired the students with their motivational speeches.



THE INSTITUTE OF COST ACCOUNTANTS OF INDIA MADURAI CHAPTER



The Chapter organised a professional development programme on “Block chain” on 1st September 2022 at Hotel Moskva, Madurai. The programme was inaugurated with the lighting of the traditional lamp, Tamil Thai Vazhthu and playing of Motto Song of ICAI. CMA Dr.S.Kumararajan, Chairman, Madurai Chapter welcomed the gathering. CMA R.K.Bapulal, Vice Chairman of the Chapter introduced the Speaker CMA TCA Srinivasa

Prasad. The Guest Speaker delivered a detailed lecture with PowerPoint presentation on block chain and the uses of modern techniques, etc. and conducted an Interactive session. The programme concluded with a vote of thanks by CMA P. Mahalakshmi, Secretary of the Chapter followed by National Anthem.

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA COIMBATORE CHAPTER

On 06th August, 2022, an orientation programme about CMA course was conducted by the Chapter Secretary, CMA Surya Prakash U at Sri Ramakrishna College of Arts & Science. He made a detailed presentation about the Institute, Course Syllabus and Chapter activities.

On 11th August, 2022 an orientation programme about the CMA course was conducted by Secretary CMA Surya Prakash U at Narayanaguru College of Arts & Science.

On 27th August, 2022, the orientation programme about the CMA course was conducted by the Secretary, CMA Surya Prakash U & MC Member, CMA Mathanagopal V at PSGR Krishnammal College of Arts & Science.



THE INSTITUTE OF COST ACCOUNTANTS OF INDIA BENGALURU CHAPTER

On 27.08.2022, the Chapter organized a Professional Development Programme on “Risk Based Internal Audit”. CMA Satish Shenoy, CMA Raghavendra B K , Secretary BCCA, CMA Vishwanath Bhat, Vice Chairman, SIRC, CMA Pranabandhu Dwibedy, Treasurer, BCCA, CMA G N Venkataraman ,Former President ICAI and CMA Jayarama A V , Vice Chairman BCCA were the speakers at the programme.

On September 17, 2022 the Chapter organized a Professional Development Programme on “Where we are Heading Towards” and Swami Narayanananda Sarawathi, Swamiji is Proponent Sanaatana Dharma by being a Resident Sannyasin at Sri Datta Kshetra, Sri Dattasadananda Ashrama, Ramanagara District. CMA Satish R , -Chairman BCCA, CMA Raghavendra B K , Secretary BCCA, CMA Vishwanath Bhat , Vice Chairman , SIRC, CMA Pranabandhu Dwibedy , Treasurer , BCCA, CMA G N Venkataraman , Former President ICAI , CMA Jayarama A V, Vice Chairman BCCA, CMA Sreepada H R , PD Chairman BCCA, CMA Vijayalakshmi K R , Coaching



Chairperson were the speakers at the programme.

The Chapter organized a Career Counselling programme on September 5, 2022 at Sree Vasavi First Grade College, at Kollegal.



WESTERN INDIA REGIONAL COUNCIL

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
NAVI MUMBAI CHAPTER



The Chapter conducted an offline Continuing Education Programme on “Project Finance: A Practitioner’s perspective” on 28th August 2022. The speaker was CMA Debasish Mitra, GM Finance KRCL. CMA Vaidyanathan Iyer, Chairman of the Chapter welcomed the audience, introduced the speaker and stressed on the importance of knowing a practitioner’s view of project finance for achieving better results. The speaker deliberated on the various aspects of project finance. The lucid presentation and interactive workshop came to an end with a vote of thanks proposed by CMA BN Sapkal, Past Chairman of the Chapter.

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
AHMEDABAD CHAPTER

The Chapter organized a Residential Program at Diu & Somnath from 26th August’22 to 28th August’22. CCM CMA Ashwin Dalwadi RCM CMA Ashish Bhavsar graced the occasion with their presence. The inaugural speech was delivered by CMA Malhar Dalwadi, Chairman of Ahmedabad Chapter and CMA Mihir Vyas, Chairman of Baroda Chapter. The vote of thanks was proposed by CMA Priyank Vyas, Secretary Baroda Chapter.

The Chapter organized Sher-O-Shayari, Hindi Kavita & Ghazal competition on the occasion of Hindi Diwas on 14/09/2022 in which about 20 students enthusiastically participated. Chairman CMA Malhar Dalwadi, Secretary CMA Mitesh Prajapati and Chief Guest Mr. Manishbhai Pathak, Mantri of library of Gujarati Sahitya Prasad acted as jury members. CMA Malhar Dalwadi, Chairman of Chapter earlier welcomed Jury Shri Manishbhai Pathak and honoured him with a Shawl. Ahmedabad Chapter Secretary, CMA Mitesh Prajapati delivered the inaugural address and conveyed the importance of Hindi Day to everyone present. CMA Malhar Dalwadi, Chairman of the Chapter encouraged everyone to participate in the competition with enthusiasm. Jury Shri Manishbhai Pathak explained the importance of literature in life. Secretary, Ahmedabad Chapter, CMA Mitesh Prajapati concluded the competition.

ICAI-Nashik, ICAI-Ahmedabad & ICAI-Baroda Chapters jointly organized a CEP webinar on Advanced Functions of Excel under the initiative “Skill Development for future Professionals” on 17th Sept’2022. CMA Bhushan Pagere, Chairman Nashik Chapter, welcomed the speaker CMA Ashish Talikot and participant members. CMA Vandit Trivedi introduced the speaker. CMA Ashish Talikot gave a detailed presentation and explained the topic in a lucid manner. CMA Nikhil Pawar proposed a vote of thanks.



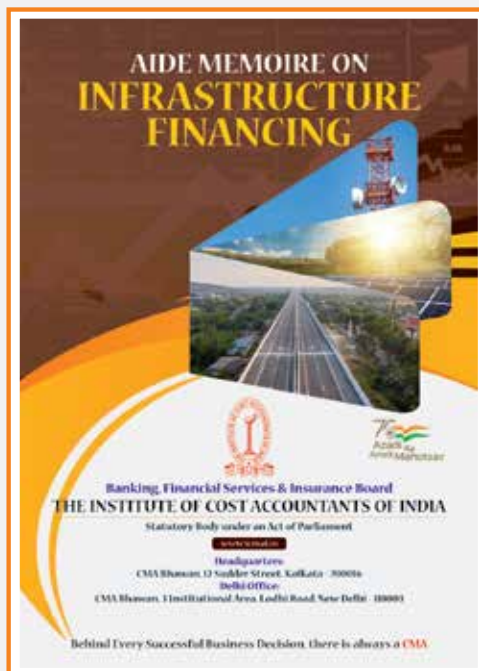
Aide Memoire on INFRASTRUCTURE FINANCING

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 - ▲ Definition of Infrastructure sector-Harmonised master list of infrastructure sub -sectors, as notified by Department of Economic Affairs, Ministry of Finance, Definition under Companies Act 2013 and under Income Tax Act 1961.
 - ▲ Elements of Financing Infrastructure.
 - ▲ Types of Public Private Partnership (PPP) models.
 - ▲ Formation of the Special Purpose Vehicle (SPV) and Key project documents/structure for Infrastructure Finance.
 - ▲ Financing mechanism consortium/syndication.
 - ▲ Credit appraisal process-covering management appraisal, economic appraisal, marketing appraisal, technical appraisal and Financial appraisal.
 - ▲ In depth analysis of cost of project and means of finance with specific reference to Infrastructure projects, including interest during construction (IDC), Debt Service Reserve Account (DSRA) etc.
 - ▲ Key performance indicators including financial indicators and non financial indicators. This includes detailed discussion on all financial ratios for long term funding like DSCR, IRR, BEP and concepts like ESG compliances.
 - ▲ Detailed discussion on the intricacies involved in appraisal and sanction, including various aspects of concession agreement, Power Purchase agreement, Escrow agreement, Fuel supply agreement Inter creditors agreement etc
 - ▲ Assessment of various Risks involved in infrastructure finance like sponsor risk , construction risk,market risk, financial risk etc and mitigation thereof.
 - ▲ Detailed Case studies on the following projects
 - Road sector -Hybrid annuity (HAM)model -New Project
 - Road sector- Toll Operate Transfer (TOT) model-Funding against existing project as a part of Asset Monetization Plan.
 - Renewable Energy sector - Solar Power Plant-New Project.
 - ▲ Case studies on Credit Risk Mitigation
 - Waste to Energy Project
 - Water supply management project.
 - Railway station Redevelopment project.
 - ▲ Project monitoring and performance audit of infra projects
 - ▲ Restructuring, management of weak accounts and NPA accounts.
 - ▲ Infrastructure thrust by Government of India- National Infrastructure pipeline , National Monetization Pipeline, NABFID and Atmanirbhar Bharat
 - ▲ Alternate sources of funding including InvITs, IDFs, Securitisation, Credit, Enhancement etc
 - ▲ Methodology for pricing of loans
 - ▲ Preventive vigilance



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Chairman
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CMA Bhawan, 3 Institutional Area, Lodhi Road
New Delhi - 110003

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DIRECT TAXES

- **Notification No. 105 dated 1st September 2022:** In exercise of the powers conferred by section 139A read with section 295 of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962, in rule 114BB, after sub-rule (1), the following proviso shall be inserted : Provided that the provisions of this sub-rule shall not apply in a case where the person, depositing the money as per Sl. No. 1 of column (2) or withdrawing money as per Sl. No. 2 of column (2) or opening a current account or cash credit account as per Sl. No. 3 of column (2) of the Table above, is the Central Government, the State Government or the Consular Office.
- **Notification No. 106 dated 2nd September 2022:** In exercise of the powers conferred by section 118 of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby directs that (a) Chief Commissioners of Income-tax as specified in Column (3) of the Schedule shall be subordinate to the Principal Chief Commissioners of Income-tax as specified in Column (2) of the said Schedule; (b) Commissioners of Income-tax (Appeals) Unit as specified in Column (4) of the said Schedule shall be subordinate to the Chief Commissioners of Income-tax as specified in Column (3) of the said Schedule.
- **Notification No. 107 dated 5th September 2022:** 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, 'Central Registry of Securitisation Asset Reconstruction and Security Interest of India' (PAN AAEC5770G), a body set up under the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 (No.54 of 2002) in respect of the following specified income arising to that body, namely:- (a) fee income from Security Interest transaction; (b) fee income from transactions on Central KYC (CKYC) Records Registry; (c) RTI application fee; and (d) interest income earned on fixed deposits and on (a) to (c) above.
This notification shall be effective subject to the conditions that Central Registry of Securitisation Asset Reconstruction and Security Interest of India, - (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. 108 dated 5th September 2022:** 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, 'Haryana Electricity Regulatory Commission' (PAN AAAGH0072G), a Commission constituted under the Haryana Electricity Reform Act, 1997 (Haryana Act No.10 of 1998), in respect of the following specified income arising to that Commission, namely: (a) Fees received under the Electricity Act, 2003 (36 of 2003) and (b) Interest earned on government grants and loans and fees received under the Electricity Act, 2003 (36 of 2003).

This notification shall be effective subject to the conditions that Haryana Electricity Regulatory Commission: - (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. 109 dated 14th September 2022:** In exercise of the powers conferred by section 285B read with clause (mma) of sub-section (2) of section 295 of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962 (hereinafter referred to as the principal rules), for rule 121A, the following rule shall be substituted:
121A. Form of statement to be furnished by producers of cinematograph films or persons engaged in specified activity:
(1) The statement required to be furnished under section 285B by a person carrying on production of cinematograph film or engaged in specified activity, or both, shall be in Form No. 52A for each previous year.
(2) Form No. 52A shall be furnished within sixty days from the end of the previous year.
(3) For the purpose of section 285B, the prescribed authority shall be the Principal Director General of Income-tax (Systems) or the Director General of Income-tax (Systems), as the case may be, or any person authorised by the Principal Director General of Income-tax (Systems) or Director General of Income-tax (Systems).
(4) Form No. 52A, shall be furnished electronically, (i) under digital signature, if the return of income is required to be furnished under digital signature; (ii) through electronic verification code in a case not covered under clause (i).
- **Notification No. 110 dated 19th September 2022:** In exercise of the powers conferred by section 170A read with section 295 of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the rules further to amend Income-tax Rules, 1962.

In the Income-tax Rules, 1962 (hereinafter referred to as the principal rules), after rule 12AC, the following rule shall be inserted:

‘12AD. Return of income under section 170A. (1) The modified return of income to be furnished by a successor entity to a business reorganisation, as referred to in section 170A, for an assessment year, shall be in the Form ITR-A and verified in the manner specified therein.

(2) The return of income referred to in sub-rule (1) shall be furnished electronically under digital signature.

(3) If the assessment or reassessment proceedings for an assessment year relevant to a previous year to which the order of the business reorganisation applies have been completed or are pending on the date of furnishing of the modified return in accordance with the provisions of section 170A, the Assessing Officer shall, pass an order modifying the total income of the relevant assessment year determined in such assessment or reassessment, or proceed to complete the assessment or reassessment proceedings, as the case may be, in accordance with the order of the business reorganisation and the modified return so furnished.

(4) The Principal Director-General of Income-tax (Systems) or Director-General of Income-tax (Systems) shall specify the procedures, formats and standards for ensuring secure capture and transmission of data and shall also be responsible for evolving and implementing appropriate security, archival and retrieval policies in relation to furnishing the return in the manner specified in sub-rule (2).

- **Notification No. 111 dated 28th September 2022:** In exercise of the powers conferred by section 295 read with sub-section (18) of section 155 of the Income-tax Act, 1961, the Central Board of Direct Taxes, hereby makes the rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962 (hereinafter referred to as the principal rules), after rule 131, the following rule shall be inserted, namely: Application for recomputation of income under sub-section (18) of section 155.

132. (1) An application requesting for recomputation of total income of the previous year without allowing the claim for deduction of surcharge or cess, which has been claimed and allowed as deduction under section 40 in the said previous year, shall be made in Form No. 69 on or before the 31st day of March, 2023.

(2) Form No. 69 shall be furnished electronically to the Principal Director General of Income-tax (Systems) or the Director General of Income-tax (Systems) or the person authorized by the Principal Director General of Income-tax (Systems) or the Director General of Income-tax (Systems).

(3) Principal Director General of Income-tax (Systems) or the Director General of Income-tax (Systems) shall lay down the procedures and standards

for furnishing and verification of Form No. 69 and to forward the application received in Form No. 69 to the Assessing Officer. (4) The Assessing Officer shall, on receipt of the application in Form No. 69, recompute the total income by amending the relevant order and issue notice under section 156 specifying the time period within which amount of tax payable, if any, is to be paid,- (i) for the assessment year relevant to the previous year referred to in sub-rule (1); and (ii) for the assessment years subsequent to the assessment year referred to in clause (i), if the order for such assessment year results in variation in carry forward of loss or allowance for unabsorbed depreciation or credit for tax under section 115JAA or section 115JD.

(5) The assessee shall, after making the payment of the tax determined under sub-rule (4), furnish the details of payment of tax in Form No.70 to the Assessing Officer within thirty days from date of making the payment.

3. In the principal rules, after Form No.68, the Forms 69 & 70 shall be inserted.

- **Circular No 18 dated 13th September 2022:** Additional Guidelines for removal of difficulties under sub-section (2) of section 194R of the Income-tax Act, 1961. It is clarified that this Circular is only for removing implementation of provisions of section 194R of the Act not impact the taxability of income in the hands of which shall be governed by the relevant provisions of the Act.

INDIRECT TAXES

GST

- **Notification No.18/2022–Central Tax dated 28th September 2022:** In exercise of the powers conferred by clause(b) of sub-section (2) of section 1 of the Finance Act, 2022 (6 of 2022), the Central Government hereby appoints the 1st day of October, 2022, as the date on which the provisions of sections 100 to 114, except clause (c) of section 110 and section 111, of the said Act shall come into force.
- **Notification No.19/2022–Central Tax dated 28th September 2022:** In exercise of the powers conferred by section 164 of the Central Goods and Services Tax Act, 2017 (12 of 2017), the Central Government, on the recommendations of the Council, hereby makes the rules further to amend the Central Goods and Services Tax Rules, 2017.

In the Central Goods and Services Tax Rules, 2017 (herein after referred to as the said rules), in rule 21, after clause (g), the following clauses shall be inserted, namely:” (h) being a registered person required to file return under subsection (1) of section 39 for each month or part thereof, has not furnished returns for a continuous period of six months.

In rule 36 of the said rules: a) in sub-rule(2), the words, letters and figure and the relevant information,

as contained in the said document, is furnished in FORM GSTR-2 by such person shall be omitted;(b) in sub-rule (4),in clause (b), after the words, the details of, the words, input tax credit in respect of shall be inserted.

- **Notification No.20/2022–Central Tax dated 28th September 2022:** In exercise of the powers conferred by section 148 of the Central Goods and Services Tax Act, 2017 (12 of 2017), the Central Government, being satisfied that it is necessary in the public interest so to do, on the recommendations on the Council, hereby rescinds the notification of the Government of India, Ministry of Finance (Department of Revenue),-No.20/2018-Central Tax, dated the 28th March, 2018, except as respects things done or omitted to be done before such rescission.
- **Corrigendum to Notification No. 20/2022-Central Tax dated 28th September 2022:** In the notification of the Government of India, Ministry of Finance (Department of Revenue), No. 20/2022-Central Tax, dated the 28th September, 2022, published in the Gazette of India, at page 5, in line 33, for the figure “2018”, read “2018, with effect from the 1st day of October, 2022”.
- **Circular No.180/12/2022-GST dated 9th September 2022:** Guidelines for filing/revising TRAN-1/TRAN-2 in terms of order dated 22.07.2022 & 02.09.2022 of Hon’ble Supreme Court in the case of Union of India vs. Filco Trade Centre Pvt. Ltd.

CUSTOMS

- **Notification No. 47/2022-Customs dated 7th September 2022:** In exercise of the powers conferred by sub-section (1) of section 25 of the Customs Act, 1962 (52 of 1962), the Central Government, 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 said notification, after the second proviso, the following proviso shall be inserted, namely: “Provided also that the importers and the exporters, who are receiving the supply from the importers for the intended purpose, shall follow the procedure, as applicable, in the Customs (Import of Goods at Concessional Rate of Duty) Rules, 2017, as amended from time to time, with effect from the 1st October, 2022.
- **Notification No. 48/2022-Customs dated 7th September 2022:** In exercise of the powers conferred by sub-section (1) of section 25 of the Customs Act, 1962 (52 of 1962), the Central Government, 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 said notification, after the fourth proviso, the following proviso shall be inserted, namely: (i) Provided also that the importers and the exporters, who are receiving the supply from the importers for the intended purpose, shall follow the procedure,

as applicable, in the Customs (Import of Goods at Concessional Rate of Duty) Rules, 2017, as amended from time to time, with effect from the 1st October, 2022. (ii) in the fifth proviso, for the words, figures, brackets, letters, and symbols, “Policy Circular No.77(RE-2008)/2004-09 dated the 31st March, 2009” the words, figures, brackets, letters, and symbols, “Policy Circular No. 39 (RE-2010)/2009-14, dated the 19th August, 2011, para 4.41 of the Foreign Trade Policy (2015-20) and para 4.94 of the Hand Book of Procedures (2015-20), as applicable and” shall be substituted.

- **Notification No. 49/2022-Customs dated 8th September 2022:** In exercise of the powers conferred by sub-section (1) of section 8 of the Customs Tariff Act, 1975 (51 of 1975) (hereinafter referred to as the Customs Tariff Act), the Central Government, hereby directs that the Second Schedule to the Customs Tariff Act shall be amended in the following manner:

In the Second Schedule to the Customs Tariff Act:

after Sl. No. 6 and the entries relating thereto, the following Sl. Nos. and entries relating thereto shall be inserted:

6A	100610	Rice in the husk (paddy or rough)	20%
6B	100620		20%

after Sl. No. 7 and the entries relating thereto, the following Sl. No. and entries relating thereto shall be inserted:

7A	10063090	Semi-milled or wholly-milled rice, whether or not polished or glazed (other than Parboiled rice and Basmati rice	20%
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- **Notification No. 50/2022-Customs dated 27th September 2022:** In exercise of the powers conferred by sub-section (1) of section 25 of the Customs Act, 1962 (52 of 1962) and sub-section (12) of section 3 of the Customs Tariff Act, 1975 (51 of 1975), 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 said notification in the ANNEXURE, in List 33, -(i) against item 3, in column (2), for the entry, the entry “8413,8414 or 8481” shall be substituted; (ii) against item 14, -(a) in column (2), after the figures “3104 20 00”, the figures “2915” shall be inserted; (b) in column (3), for the words “and Oil and Gas wells specific Cement Additives”, the words “Oil and Gas wells specific Cement Additives and Cesium Formate” shall be inserted.

STATUTORY UPDATES

- **Notification No. 51/2022-Customs dated 28th September 2022:** In exercise of the powers conferred by sub-section (1) of section 25 of the Customs Act, 1962 (52 of 1962), the Central Government, on being satisfied that it is necessary in the public interest so to do, hereby makes the following further amendment in the notification of the Government of India. In the said notification, against S.No. 7, in column (4), for the entry, the entry “30,000 tons” shall be substituted.
- **Circular No. 17/2022-Customs dated 9th September 2022:** Customs procedure for export of cargo in closed containers from ICDs to Bangladesh using Inland Waterways.
- **Circular No. 18/2022-Customs dated 10th September 2022:** Customs (Import of Goods at Concessional Rate of Duty or for Specified End Use) Rules, 2022 notified vide Notification 74/2022 dated 9th September, 2022.
- **Circular No. 19/2022-Customs dated 14th September 2022:** Transshipment through India of containerized export cargo of Bangladesh destined for third countries using Riverine and Land routes.
- **Circular No. 20/2022-Customs dated 22nd September 2022:** Classification of goods that undertake lifting and handling functions and have mobility as a function.
- **Circular No. 21/2022-Customs dated 26th September 2022:** Amendments to Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP).
- **Circular No. 22/2022-Customs dated 26th September 2022:** Amendments to Rebate of State and Cen-

tral Taxes and Levies (RoSCTL) Scheme.

- **Circular No. 23/2022-Customs dated 30th September 2022:** Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP) w.e.f. 01.01.2021.

EXCISE

- **Notification No. 29/2022 - Central Excise dated 16th September 2022:** In exercise of the powers conferred by section 5A of the Central Excise Act, 1944 (1 of 1944) read with section 147 of the Finance Act, 2002 (20 of 2002), 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 said notification, in the Table, (i) against S. No. 1, for the entry in column (4), the entry “Rs. 10,500 per tonne” shall be substituted; (ii) against S. No. 2, for the entry in column (4), the entry “Rs.5 per litre” shall be substituted.
- **Notification No. 30/2022-Central Excise dated 16th September 2022:** In exercise of the powers conferred by section 5A of the Central Excise Act, 1944 (1 of 1944) read with section 147 of Finance Act, 2002 (20 of 2002), 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 said notification, in the Table, (i) against S. No. 2, for the entry in column (4), the entry “Rs. 8.50 per litre” shall be substituted.

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

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Kolkata, the 14th September, 2022

NOTIFICATION

11-CWR(671-680)/2022: In pursuance of sub-Regulation (3) of Regulation 11 of the Cost and Works Accountants Regulations, 1959, it is hereby notified that the Certificates of Practice granted to :

1. Mr. Deepak, MCOM, ACMA, House No. 1636, Pana Mamurpur, Narela, Delhi- 110040 (Membership No-44437) is cancelled from 15th December,2021 to 31st March,2022 at his own request,
2. Mr. Pavan Kumar Raju Uppalapati, BCOM, ACMA, Dr. No: 20-3/2-9, Ayodhyanagar - 1 Line, Near Raghavendra Theatre, Vijayawada- 520003 (Membership No- 41004) is cancelled from 20th February,2022 to 31st March,2022 at his own request,
3. Mr. Ramesh Kumar Noone, BCOM, ACMA, 5-107/1, Shiva Nagar, Opp Sha Theatre, Chintal, Hyderabad,- 500054 (Membership No-16212) is cancelled from 26th February,2022 to 31st March,2022 at his own request,
4. Mr. Satish Narayan, BCOM,MBA,ACMA, 4/9, 1st Floor East Street Akkithimmana Halli, Shanthinagar Behind Sapna Stores, Bengaluru - 560027 (Membership No- 42928) is cancelled from 8th March,2022 to 31st March,2022 at his own request,
5. Mr. Karn Kumar Pandit, BCOM,ACMA, Building No.11 3rd Floor, Ganesh Nagar Ext-II, Shakarpur, New Delhi,- 110092 (Membership No-44363) is cancelled from 29th March,2022 to 31st March,2022 at his own request,
6. Mr. Plaban Chowdhury, BCOM, ACMA, 410/C, N. C. Banerjee Road,Baidyabati, Hooghly - 712222 (Membership No-48651) is cancelled from 29th March,2022 to 31st March,2022 at his own request,
7. Mr. Harshavardhan Reddy Musani, BCOM, ACMA, D No:4/18 A,Gollapalli (VI), Vaddirala(Post), Mylavaram(Mdl), Ysr Kadapa (Dist), Jammalamadugu - 516432 (Membership No-45991) is cancelled from 29th March,2022 to 31st March,2022 at his own request,
8. Mr. V Suresh, BCOM, ACMA, 50 3rd Main Road, Binny Layout, Behind Attiguppe Vijayanagar, Bengaluru,- 560040 (Membership No-12842) is cancelled from 30th March,2022 to 31st March,2022 at his own request,
9. Mr. Mallu Janardhana Reddy, BCOM,ACMA, B-3 Vamika Arcade, Opp Sainath Hospital, Madhuranagar, Hyderabad - 500032 (Membership No-49994) is cancelled from 30th March,2022 to 31st March,2022 at his own request,
10. Mr. Pushpesh Kumar Kashyap, BCOM HONS,ACMA,, S/o: Mr. Binod Kumar Kashyap, House No. 12, Near Hanuman Mandir, Anand Mohalla, Katrasgarh, DHANBAD - 828113 (Membership No-46906) is cancelled from 26th August, 2022 to 31st March,2023 at his own request.


(Kaushik Banerjee)
Secretary

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- ⊙ Major Organ Transplant
- ⊙ Hemophilia
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