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The Institute of Cost Accountants of India

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

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

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

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

MISSION STATEMENT

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

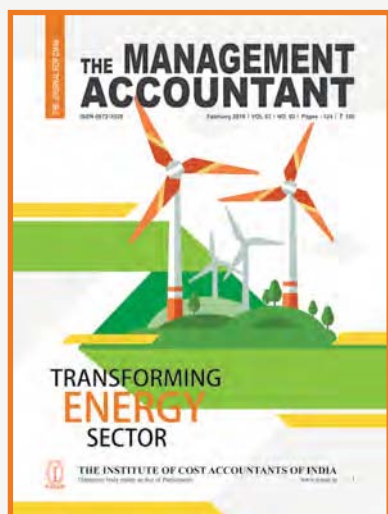
VISION STATEMENT

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

IDEALS THE INSTITUTE STANDS FOR

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

Behind every successful business decision, there is always a CMA



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THE JOURNAL FOR CMAS

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Greetings!!!

From the time immemorial, human race has survived, grown, flourished and prospered on the basis of energy produced, established and utilized. The invention of fire accidentally proved a major boost for early man to evolve into the modern world. This discovery paved ways to exploration of the tremendous potential. Major inventions of science focused on harnessing energy and converting it from one form to another to achieve mechanical work. Energy and Power are two of the most critical components of infrastructure crucial for the economic growth and welfare of nations. The existence and development of adequate infrastructure is essential for sustained growth of the Indian economy.

The power utility sector worldwide is characterised by a range of business model subsets – independent power producers, merchant generators, unbundled operators of network assets and others but at its heart is the core traditional power utility business model of companies delivering profit from a mix of generation, distribution and retailing activities across centralised grids. Companies have been used to high investment credit ratings enabling them to develop capital-intensive asset bases with predictable long-term cost recovery from a mix of regulated and unregulated returns. Sources of power generation range from conventional sources such as coal, lignite, natural gas, oil, hydro and nuclear power to viable non-conventional sources such as wind, solar, and agricultural and domestic waste. The Indian power sector is one of the most diversified in the world, compared to many developing countries where crude oil and natural gas and renewables play a major role. The demand for electricity in the country has also been growing at a rapid rate and is expected to grow further in the years to come.

Energy is the primary input for almost all economic activities and has become vital for improvement in the quality of life. In fact, the whole infrastructure rests upon energy. India ranks third among 40 countries in EY's Renewable Energy Country Attractiveness Index, on back of strong focus by the government on promoting renewable energy and implementation of projects in a time bound manner. India has a vast supply of renewable energy resources, and it has one of the largest programs in the world for deploying renewable energy products and systems. Indeed, it is the only country in the world to have an exclusive ministry for renewable energy development, the Ministry of Non-Conventional Energy Sources (MNES).

The increasing availability of green power enables electricity customers to accelerate installation of renewable energy technologies. As more green power sources are developed displacing conventional generation the overall environmental impacts associated with electricity generation will be significantly reduced. Green power has been an important agenda of India's energy planning process especially since climate change has taken centre stage in the domestic and international policy arena.

Indian power and energy sector are witnessing major changes over the periods. Growth of the concerned sectors in India since its independence has been noteworthy. The breakup of the components of power sector viz. generation, transmission and distribution has created a competition in the generation, open access transmission with retail competition in distribution. The competition in generation reduces cost of power, open access transmission provides access to transmission grid for various generation which enhances reliability of power supply. Government of India has taken various initiatives to achieve its aim of providing an affordable and environment friendly "power for all" by 2019, which include preparation of state specific action plans and implementation of Green Energy Corridor for transmission of renewable energy among other measures.

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



THE MANAGEMENT ACCOUNTANT

-: PAPERS INVITED :-

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

Theme

March 2018

**Fair Value Accounting:
Changing Contour of
Financial Reporting in
India**

Subtopics

- ◆ Corporate Reporting & Accounting Standards
- ◆ Financial Instrument Measurement through Fair Value Accounting
- ◆ Fair Value in Service Sector
- ◆ Fair Value Accounting and Auditing Standards
- ◆ Fair Value Accounting for Mergers and Acquisitions
- ◆ Role of CMAs

Theme

April 2018

**Capital Market
&
Derivatives**

Subtopics

- ◆ Mechanics and Valuation Basics
- ◆ Pricing and Market Risk
- ◆ Economic function of the Derivative Market
- ◆ Financial Reform and Government Regulation
- ◆ Financial Derivatives under GST
- ◆ Role of CMAs in Capital Market

Theme

May 2018

**Foreign Trade Policy
of India**

Subtopics

- ◆ From Import Substitution to Export Promotion: The Evolution of Foreign Trade Policy of India
- ◆ The Foreign Trade Policy of 2015 - 2020
- ◆ Trade Agreements and India's Foreign Trade
- ◆ Export Incentives and its Role in India's Foreign Trade
- ◆ Implication of GST on Foreign Trade Policy
- ◆ Role of CMAs

Theme

June 2018

**Blockchain Technology
- A Game Changer in
Accounting**

Subtopics

- ◆ Blockchain - Introduction & Concept
- ◆ Blockchain - the future of accountancy
- ◆ Blockchain - an opportunity for accountants
- ◆ Will Blockchain render accountants irrelevant?
- ◆ Blockchain - impact on auditing
- ◆ Blockchain Accounting - misconceptions & challenges

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

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



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PRESIDENT'S COMMUNIQUE



"Work must be done with detachment. It is the ego that spoils work and the ego is the centrepiece of most theories of motivation. We need not merely practice a theory of motivation but a theory of inspiration."

-- Bhagavad Gita

CMA SANJAY GUPTA

President

The Institute of Cost Accountants of India

Namaskaar!!!

By the time this Communication reaches you the whole nation will be evaluating and debating on the new Budget proposals and Economic Survey 2018. Shri Arun Jaitley, Hon'ble Union Minister of Finance, presented the general budget 2018-19 in Parliament on February 1st, 2018. Budget was guided by mission to strengthen agriculture, rural development, health, education, employment, MSME and infrastructure sectors.

Government said that a series of structural reforms will propel India among the fastest growing economies of the world. As per various reports our Country is firmly on course to achieve over 8% growth as manufacturing, services and exports back on good growth path. We will have more and more evaluating sessions on the Union Budget at various centers. Overall the Budget has given positive feelings.

Another important update is the release of Economic Survey 2018.

Government has released the Economic Survey 2018 and the Economic Survey 2018 has estimated that the Indian economy will grow by 7-7.5% in 2018-19, thereby re-instating India as the world's fastest-growing major economy. Tabled in Parliament on Monday by Hon'ble Minister of Finance, the Survey says the second half of Financial Year 2018 can clock 6.75% growth. According to the India Inc (CEOs of 51 top companies), India will witness an average of 6.5 to 8 per cent economic growth in 2018-19.

Now, let me bring to you some of the significant developments in profession that took place in the last one month:

58th National Cost Convention (NCC 2018)

I am happy to announce that **58th National Cost Convention (NCC 2018)** on the eve of Platinum Jubilee Year of the Institute will be held on 16th & 17th March 2018 at New Delhi on the theme **"New India 2022: Role of CMAs from Intent to Action"**. I along with my council colleague CMA P. Raju Iyer, CMA Dr. I. Ashok, and CMA Hari Krishan Goel, Former CCM met **Shri M. Venkaiah Naidu, Hon'ble Vice President of India** to invite him to inaugurate 58th NCC - 2018 of the Institute as the "Chief Guest" and we are fortunate that the Hon'ble Vice President of India has accepted our invitation to grace the occasion. I earnestly request all the members of the Institute to attend this Annual National event of the Institute in large numbers to show the strength of CMA profession.

I am happy to share that on 1st January, 2018, I met Shri Arun Jaitley, Hon'ble Minister of Finance and Corporate Affairs to extend New Year greetings and presented him the brochure of four newly launched courses offered by the Directorate of Advanced Studies of the Institute. I also extended New Year greetings with Shri Injeti Srinivas, Secretary to the Government of India, Ministry of Corporate Affairs and Shri Suresh Chandra, Secretary to the Government of India, Ministry of Law & Justice.

On 10th January, 2018, I met Shri Piyush Goyal, Hon'ble Minister of Railways and Coal and appraised about the progress of Railways Project and emerging role of CMAs in

Railways and Coal Sector.

I was invited to attend the event for launch of **National CSR Data Portal** and **Corporate Data Portal** on 19th January, 2018, organised by the Ministry of Corporate Affairs (MCA) at New Delhi. Shri Arun Jaitley, Hon'ble Union Minister of Finance and Corporate Affairs, graced the occasion as the Chief Guest and Shri P. P. Chaudhary, Hon'ble Minister of State for Corporate Affairs & Law and Justice also graced the occasion as the Guest of Honour.

Cost Governance Month

I am pleased to inform that the Institute is observing the month of February 2018 as "Cost Governance Month" across the country for our Members and Industry. Good Cost Governance is conducive for sustainable economic development. The objective is to address the challenges in building cost competitiveness among industries and exploring the contributions that CMA fraternity can offer to nurture the Indian economy by adopting principles of Cost Governance. Cost Governance may consist of set of policies, principles, processes, customs, and laws paving the way to direct, administer or control the effective utilization of scarce resources for an enterprise. As such, cost governance needs to be perceived as a distinct discipline being inculcated amongst the Indian Enterprises to achieve highest level of cost excellence. The Regional Councils and Chapters are requested to organise programs and events at their respective places to create awareness among the Industry people and make this initiative a grand success.

Mission Antyodaya Month

"Mission Antyodaya", a noble project undertaken by Ministry of Rural Development, which is a convergence framework for measurable effective outcomes on parameters that transform lives and livelihoods. Real Difference comes about through Convergence as it alone simultaneously addresses multi dimensions of poverty. I am pleased to inform that the Institute has already submitted its action plan to the Ministry for the Mission Antyodaya and as one of its action plan, will be declaring the month of March 2018 as "Mission Antyodaya Month" and will visit and conduct survey in 300 Gram Panchayats (approx.) within this month through its Regions and Chapters based on the Key Parameters identified by the Ministry of Rural Development. The Institute will also arrange and conduct massive awareness programs Pan India basis at various schools and colleges at Panchayat level to spread over the concept of "Mission Antyodaya".

Directorate of Advanced Studies

The Directorate of Advanced Studies conducted a One Week Workshop on "Talent Management and Career Progression" for the Executives of Braithwaite & Co. Limited, Kolkata during 15th – 20th January, 2018. Discussions were held on various topics like leadership, motivation, team building, corporate governance, ethics, human values, cost competitiveness in PSU, GST, communication & presentation skill etc. CMA Manas Kumar Thakur, Immediate Past President distributed certificates among the participants at the end of the workshop.

International Affairs Department

I along with CMA Manas Kumar Thakur, Immediate Past President, attended the Inspreneur: India Singapore - Entrepreneurship Bridge Conclave and ASEAN - India Pravasi Bharatiya Divas event organised by High Commission of India, Singapore during 4th to 7th January, 2018 at Singapore. We also attended some meetings with Frost and Sullivan, Institute for South Asian Studies (part of National University Singapore) to explore possibilities of bilateral academic cooperation and collaboration.

● Meeting with the President, IMA, USA

I wish to inform the members that I along with CMA (Dr.) I Ashok, Chairman - International Affairs & Sustainability Committee met with Mr. Jeffrey C. Thomson, President and CEO and Mr. Jim Gurowka, Vice President, International Business Operations of Institute of Management Accountants [IMA] on 25th January, 2018 at Delhi Office of the Institute and discussed about the important matters related to professional qualifications and professional development programmes offered by both the Institutes.

● Meeting with officials from CPA Australia

On 15th January, 2018, I met with officials from CPA Australia at Delhi Office of the Institute and discussed about possibilities of mutual recognition of the professional qualifications and professional development programmes offered by both the Institutes.

Insolvency Professional Agency of Institute

Insolvency Professionals are the pillars of the Insolvency and Bankruptcy Code. During the month of January 2018, IPA of the Institute conducted 2 Round Table Discussions with the Insolvency Professionals on the matters requiring deliberations and sent daily updates to its members on the recent developments. Moreover, an emphasis has been given in developing the quality of the Insolvency Professionals. A Coordination Committee of the three

PRESIDENT'S COMMUNIQUÉ

Insolvency Professional Agencies discussed on the changes required in the Insolvency Professionals Qualifying Exam, interacted with Ministry of Skill Development and Entrepreneurship in developing training structure for young professionals to empower them with necessary skills to support the Insolvency Professionals and bringing down the cost of the Insolvency Resolution Process in the long run.

Furthermore, close interactions with the BFSI and International Finance Corporation (World Bank Group) and National Institute of Bank Management (NIBM, Pune) were taken up for training of the Insolvency Professionals

IPA of the Institute also participated in the **Round Table Discussion on the Insolvency and Bankruptcy Code** organised by the ASSOCHAM and PHD chambers of Commerce on 3rd January, 2018 at New Delhi.

I wish to inform that on 11th January, 2018, I attended 2nd meeting of **Insolvency Law Committee** called by Ministry of Corporate Affairs at Shastri Bhawan, New Delhi.

Professional Development and CPD Committee

I sincerely appreciate our Regional Councils and Chapters for organizing more than 60 programs seminars, discussions and webinars during the month of January, 2018 on the topics of professional relevance and importance for the members such as, E-Way Bill: Procedures and Compliances, The Companies (Cost Records and Audit) Second Amendment Rules, 2017, Corporate Governance Practices, Valuation & Cost Audit in Competitive Industry Environment, Overview & Scope for Insolvency Professionals under Insolvency & Bankruptcy Act 2016, Pre Union Budget – 2018, MSMED Act 2006 (Opportunity & Responsibility), International Taxation - Transfer Pricing, Exposure draft on CAS-4, and so on. Further, most of the presentations made during these programmes and recorded webinars can be viewed by the members of the Institute at: <http://icmai.in/Knowledge-Bank/>

The Institute associated with PHD Chamber of Commerce & Industry in a seminar on **“Corporate Frauds - Detection, Prevention & Remedies” and “Introduction of E-Way bill and Anti-profiteering measure under GST”** held on January 11, 2018 and January 24, 2018 respectively at PHD House, New Delhi.

Institute was the “Knowledge Partner” in the **“8th Edition – National Legal Summit”** organised by Indian Chamber of Commerce in which was held on 20th January, 2018 at IHC, New Delhi. The Institute has prepared a background material on “Practical Aspect of GST Laws, Insolvency and Bankruptcy Code & Arbitration” which was circulated to participants of the Summit.

Representation with Government, PSUs, Banks and Other Organizations

PD Directorate has send representation letters to various organizations for inclusion of cost accountants for providing professional services. On the request of Institute, Bihar School Examination Board included Cost Accountants for appointment of Internal Auditor and issued corrigendum in this regard. Further, leading organizations like, Northern Coalfields Limited, West Bengal State Electricity Distribution Company Limited, Food Corporation of India, Zonal Office (South), Mahanadi Coalfields Ltd, Goa Shipyard limited, Indian Institute of Management Udaipur, HNB Garhwal University, Srinagar Garhwal, West Bengal Forest Development Corporation, Uranium Corporation of India Ltd., Jadugoda, Uttarakhand Power Corporation Ltd., Bureau of Indian Standards, Bhubaneswar Branch office and Artificial Limbs Manufacturing Corporation included and recognized CMA qualification in their Tenders/EOIs in the month of January.

Meeting with Secretary, Department of Rural Development and Secretary, MCA

On 16th January, 2018, CMA Manas Kumar Thakur, Immediate Past President attended a meeting called by Secretary, Department of Rural Development and Secretary, MCA with the representatives of Industry and professional institutions associated with MCA regarding “Mission Antyodaya” at Shastri Bhawan, New Delhi.

Technical Directorate

Cost Accounting Standards Board (CASB)

I am pleased to inform that the Cost Accounting Standards Board (CASB) of the Institute has released the Guidance Note on CAS-13 (Cost of Service Cost Centre). The same is available on the CASB portal of the Institute's website. I am grateful to the stakeholders / members for sending their suggestions/ comments on the Exposure Draft of CAS-4 and enabling the CASB to finalize the said Guidance Note.

Also, the Cost Accounting Standards Board (CASB) in its

91st Board meeting held on 24th January 2018 considered the suggestions/ comments received from the stakeholders and approved the Cost Accounting Standard (CAS-4) (Revised 2018) on “Cost of Production or Acquisition or Supply of Goods or Cost of Provision of Services or Both” and recommended for approval of the Council of the Institute.

● **Technical Cell (Cost Audit, Compliance and Others)**
: Revision of CRA-1 and CRA-3 on account of GST and Ind AS

I wish to inform that the Technical Cell (Cost Audit, Compliance and Others) in its 18th meeting held on 25th January 2018 considered the recommendations of Small Group constituted by the Institute to analyze the impact of Customs Tariff Act (CTA) Codes vis-à-vis Central Excise Tariff Act (CETA) Codes, GST and Ind As on CRA-1 and CRA-3 of the Companies (Cost Records and Audit) Rules 2014. The Technical Cell finalized their suggestions and recommendations on CRA-1 and CRA-3 which are being forwarded to Ministry of Corporate Affairs/Cost Audit Branch for carrying out necessary changes/ modifications while revising the CRA-1 and CRA-3.

● **Regional Council & Chapters Coordination Committee**

The Regional Council & Chapters Coordination Committee presented a webinar on “Opportunities under Insolvency & Bankruptcy Code 2016” on 18th January 2018 which stimulated our members to develop proficiency in this allied area. Members may view the recorded webinar under Knowledge Bank portal of the Institute.

● **Activities at Regional Councils & Chapters**

● **National Seminar GST organised by Bhubaneswar Chapter and Tax Research Department of the Institute**

National Seminar on the theme “**Goods and Services Tax – The Sustainability Imperative**” organised by Bhubaneswar Chapter and Tax Research Department of the Institute at Bhubaneswar on 27th & 28th January, 2018. Shri Shashi Bhusan Behera, Hon’ble Cabinet Minister (Finance, Excise and Public Enterprises), Government of Odisha inaugurated the seminar as the Chief Guest. I interacted during the Inaugural Session of the event and also addressed the gathering. My council colleagues CMA Niranjana Mishra, CMA P.V. Bhattad, CMA Dr. I Ashok, CMA P. Raju Iyer also graced the occasion.

I conclude my communication by mentioning a thought

from Thomas A. Edison for the upcoming CMAs and Students -

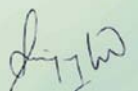
“Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time.”

Failure happens to anyone and yes, it happens all the time. Do not feel hopeless after failing many times. You just have to understand perfectly the purpose of failure in your life in order to realize that it is something you need to succeed. Giving up will stop from achieving greatness and making a difference. So instead of thinking about quitting why not take it as an opportunity to make things way better.

I will be happy to receive your valuable assessment on the Union Budget and its impact on the Indian Economy particularly its impact on our profession.

I wish all prosperity and happiness to members, students and their families on the occasion of Swami Dayanand Saraswati Jayanti, Shivaji Jayanti & Maha Shivaratri and pray for the success in all of their endeavours.

With warm regards,



CMA Sanjay Gupta

1st February, 2018

ICAI-CMA SNAPSHOTS

Glimpses of National Seminar on GST jointly organized by the Tax Research Department of the Institute and Bhubaneswar Chapter, dated January 27 – 28, 2018 at Bhubaneswar, Odisha



Glimpses of National Seminar on GST jointly organized by the Tax Research Department of the Institute and Bhubaneswar Chapter, dated January 27 – 28, 2018 at Bhubaneswar, Odisha



The seminar was inaugurated by Chief Guest, Shri Shahsi Bhushan Behera, Hon'ble Cabinet Minister of Finance, Excise and Public Enterprises, Govt. of Odisha. CMA Sanjay Gupta, President of the Institute, the Special Guest, CMA Niranjana Mishra, Chairman, Taxation Committee and Council Member of the Institute, Shri Prasanta Satapathy, Honorary Secretary, Utkal Chamber of Commerce and Industry Ltd., CMA Pranab Kumar Chakrabarty, Chairman, EIRC and CMA Uttam Kumar Nayak, Chairman, Bhubaneswar Chapter were among the eminent dignitaries who also attended the seminar.



CMA Sanjay Gupta, President of the Institute, CMA P. Raju Iyer, CMA Dr.I. Ashok, Council Members of the Institute and CMA Hari Krishan Goel, Former CCM met Shri M. Venkaiah Naidu, Hon'ble Vice President of India.



CMA Sanjay Gupta, President of the Institute met Shri Piyush Goyal, Minister of Railways and Coal and discussed the Railways Project and Enhanced role of CMAs in Railways and Coal Sector.



CMA Sanjay Gupta, President of the Institute congratulating CS Makarand Lele, New President of the Institute of Company Secretaries of India (ICSI) for 2018.



CMA Sanjay Gupta, President during a discussion with Mr. Jeffrey C. Thomson, President and CEO of Institute of Management Accountants [IMA] on 25th January, 2018 at CMA Bhawan, New Delhi



CMA Dr. I. Ashok, Chairman, International Affairs & Sustainability Committee and CMA Sanjay Gupta, President of the Institute welcomes Mr. Jim Gurowka, Vice President, International Business Operations of Institute of Management Accountants [IMA] on 25th January, 2018 at CMA Bhawan, New Delhi.



CMA Sanjay Gupta, President of the Institute and CMA Dr. I. Ashok, Chairman, International Affairs & Sustainability Committee welcomes Mr. Jeffrey C. Thomson, President and CEO of Institute of Management Accountants [IMA] on 25th January, 2018 at CMA Bhawan, New Delhi



CMA M P Vijayakumar, chief guest & speaker deliberating during Late S Ganapathisubramaniam Memorial Lecture at Chennai on 6th January 2018.

From Left: CMA H Padmanabhan, Vice President of the Institute, CMA Jyothi Satish, Secretary, SIRC, CMA Dr A Mayil Murugan, Chairman, SIRC, CMA R Suresh Gunjjali, Vice Chairman SIRC are also seen



CMA H Padmanabhan, Vice President and CMA Dr A Mayil Murugan, Chairman, SIRC inaugurating the Tamil Nadu Youth Meet by lighting the lamp jointly organized by SIRC and Vikadan Group on January 7, 2018



CMA H Padmanabhan, Vice President of the Institute, CMA Dr A Mayil Murugan, Chairman, SIRC, CMA Dr D P Nandy, Director, Research and Journal, CMA Meena Ramji, Chairperson Coimbatore Chapter attending a press meet at Coimbatore in the month of January 2018 to discuss about Institute's initiatives and future programs



CMA H Padmanabhan Vice President, CMA Suryanarayanan RCM and Past Chairman SIRC, members and staffs in the flag hoisting ceremony on Republic Day 2018 at SIRC, Chennai



CMA H Padmanabhan, Vice President of the Institute paying homage and addressing during Late S Ganapathisubramaniam Memorial Lecture at Chennai on 6th January 2018. CMA Jyothi Satish, Secretary, SIRC, CMA M P Vijayakumar, Chief Guest & Speaker, CMA Dr A Mayil Murugan, Chairman SIRC and CMA R Suresh Gunjjali, Vice Chairman SIRC are seen on the dais



The Directorate of Advanced Studies of the Institute conducted a One Week Workshop on "Talent Management and Career Progression" for the Executives of Braithwaite & Co. Limited, Kolkata during 15th - 20th January, 2018. CMA Manas Kumar Thakur, Immediate Past President of the Institute seen along with CMA Partha Protim Bose, Chairman & Managing Director, Braithwaite & Company Limited (Addl. Charge)

A Report on National Seminar on GST

Theme: “Goods and Services Tax-The Sustainability Imperative”

27- 28 January 2018, Bhubaneswar

The Institute of Cost Accountants of India (ICAI) – Tax Research Department & Bhubaneswar Chapter organized National Seminar on GST on 27th and 28th of January, 2018 at KIIT Convention Center (Campus-6), Bhubaneswar, Odisha. The title of the National Seminar was “Goods and Services Taxes–The Sustainability Imperative”.

The conference was inaugurated by Shri Shashi Bhusan Behera, Hon’ble Cabinet Minister (Finance, Excise & PE), Govt. of Odisha. CMA Uttam Kumar Nayak, Chairman, The ICAI-Bhubaneswar Chapter delivered welcome address, CMA Niranjan Mishra, Council Member & Chairman, Taxation Committee, ICAI delivered Key Note address and CMA Sanjay Gupta, President, ICAI delivered presidential address and CMA Pranab Kumar Chakrabarty, Chairman, ICAI-EIRC extended formal vote of thanks.

Panel Discussion-I was organized on GST Framework –Principles and Process and chaired by CMA CS V S Datey, Author, Indirect Taxation, Pune and attended by eminent resource persons such as

Shri Ananda Satapathy, Additional Commissioner of State Tax, Odisha, CMA CS Niranjan Swain, Sr. G M (Fin), OPGC Ltd., CMA T.K.Jagannathan, Expert-Indirect Taxes, Bengaluru, CA CMA CS Sathya Kumar, CMA P.K Chand, CFO, BCPL, Dibrugarh and CA. CMA. CS. Sathya Kumar, CEO

& Founder, Tycoon+ Advisors, Chennai. Discussion and interaction held specifically on Export of goods and international services, Supply – Understanding it more, Time and place of supply, Valuation- Trade promotion schemes, discounts and related persons, Invoicing - Check points and Input Tax Credit & Credit distribution- Rules & Tools. CMA P V Bhattad, Past President, ICAI and CMA Damodar Mishra, Vice Chairman, ICAI-Bhubaneswar Chapter delivered welcome and vote of thanks respectively. CMA Amit Sarker, Director – Indirect Taxation, Deloitte Haskins & Sells LLP, Mumbai moderated the session.

Panel Discussion-II was organized on Contract Management - Works & Supply which was chaired by Shri Saswat Mishra, IAS, Commissioner - State Taxes, Odisha and attended by panelists such as CMA (DR.) Sanjay R Bhargave, Expert-Indirect Taxes, Pune, CMA CS T B Chatterjee, Sr. Vice President, DCIM Ltd., Kolkata CA Tarun Kumar Agarwal, Expert-Indirect Taxes, Bhubaneswar CMA Mrityunjay Acharjee, Sr. VP-Indirect Taxation, Balmer Lawrie & Co. Ltd., Kolkata and CMA Anil Kumar Sharma, Expert-Indirect Taxes, New Delhi. CA. CMA CS. Sathya Kumar, CEO & Founder, Tycoon+ Advisors, Chennai moderated the session. Discussion and interaction held focusing on Anti-Profiteering, Managing and negotiating both Works & Supply Contracts - Supplier and Recipient perspective and

GST Philosophy for Contract Management. CMA Dr. I Ashok, Council Member, ICAI delivered welcome address and CMA Cheruvu Venkataramana, Secretary and Treasurer, The ICAI-EIRC extended formal vote of thanks.

Panel Discussion - III was on Amendments & Legal Framework and Chaired by Shri P K Mohanty, IRS (Retd.), Adviser, Govt. of India . Other Panelists were Shri D N Panda, Former Judicial Member, CESTAT, Mumbai, CMA Viswanath Bhat, Expert-Indirect Taxes, Bengaluru, CMA CA. Chiranjib Das, Expert-Indirect Taxes, Kolkata. CMA Shiba Prasad Padhi, GST Consultant, Bhubaneswar moderated the session. CMA P Raju Iyer, Council Member, ICAI delivered welcome address and CMA Tapas Ranjan Swain, Secretary, ICAI-Bhubaneswar Chapter extended formal vote of thanks. Discussions held exclusively on Tax Structure, Amendments and notifications, Litigation Management: Prevention and Reduction, Offences and penalties and Advance Ruling.

4th Panel Discussion held on Refund, E-Way Bill, Assessment & Audit and chaired by Shri P K Mohanty, IRS (Retd.), Adviser, Govt. of India and was continued further by the panelists CMA Mrityunjay Acharjee, Sr. VP-Indirect Taxation, Balmer Lawrie & Co. Ltd., Kolkata, CMA Amit Sarkar, Director – Indirect Taxation, Deloitte Haskins & Sells LLP, Mumbai, CA CMA CS Gopal Krishna Raju, Expert-Indirect Taxes, Chennai and CMA T K Jagannathan, Expert-Indirect Taxes, Bengaluru. CMA Arindam Goswami, Expert-Indirect Taxes, Raipur moderated the session Shri Saswat Mishra,

IAS, Commissioner - State Taxes, Odisha addressed as Special Guest and participated during panel discussion and clarified series of questions of participants along with other Panelists. CMA Shyam Sunder Khuntia, Director (Finance), M/s Balmer Lawrie and Co. Ltd., Kolkata addressed as “Guest of Honor”. Entire discussion was on E-Way Bill – Understanding, Refund – Practical Issues, Audit and Assessment.

CMA Niranjana Mishra, Chairman, Taxation Committee, ICAI & Chairman, Conference Committee delivered valedictory address and CMA Himoj Mishra, Treasurer, Bhubaneswar Chapter extended formal vote of thanks. All the sessions were interactive and lively. CMA Saswat Tripathy, Chairman, Professional Development Committee and CMA Jagatjyoti Biswaranjan Nayak, Former Secretary of Bhubaneswar Chapter felicitated all technical sessions and CMA Shiba Prasad Padhi , Former Chairman, ICAI-EIRC felicitated the inaugural session in nice manner. With support and co-operation of all other members of the Managing Committee of Bhubaneswar Chapter, Staff Members of Tax Research Department & Bhubaneswar Chapter, Stakeholders and Press/Electronic Media the national Seminar on GST was a Grand success and ended in most disciplined manner.

The National Seminar was organized in collaboration with Utkal Chamber of Commerce and in association with the media partners such as Business Standard, The Samaj, Odisha Live and OTV. More than 700 Professional Accountants participated at the seminar from various parts of the country.

BUDGET 2018-19

HIGHLIGHTS OF BUDGET 2018-19



CMA A. B. Nawal
Council Member and
Chairman, Corporate Law Committee
The Institute of Cost Accountants of India

Hon'ble Finance Minister Shri Arun Jaitley needs to be applauded for presenting budget focusing on Agriculture, Health, Education, Infrastructure and MSME. He has not made any populist announcement but focused on structural changes which will make Indian economy amongst top five in the world.

To cater the expenditure, Hon'ble Finance Minister have proposed number of tax proposal for which brief highlights has been given below:

Income Tax

☉ There are no changes proposed in the tax rates, surcharge.

☉ Tax slabs for individuals is as follows:

Income	Existing Rate	Proposed Rates
Upto Rs. 2,50,000/-	NIL	NIL
Rs. 2,50,001/- to Rs. 5,00,000	5%	5%
Rs. 5,00,001 to Rs. 10,00,000/-	20%	20%
Rs. 10,00,001 and above	30%	30%

☉ Tax slabs for Senior Citizens (Age above 60 years) is as follows:

Income	Existing Rate	Proposed Rates
Upto Rs. 3,00,000/-	NIL	NIL
Rs. 3,00,001/- to Rs. 5,00,000	5%	5%
Rs. 5,00,001 to Rs. 10,00,000/-	20%	20%
Rs. 10,00,001 and above	30%	30%

☉ Tax slabs for Super Senior Citizens (Age above 80 years) is as follows:

Income	Existing Rate	Proposed Rates
Upto Rs. 5,00,000/-	NIL	NIL
Rs. 5,00,001 to Rs. 10,00,000/-	20%	20%
Rs. 10,00,001 and above	30%	30%

⊙ Corporate rates for domestic companies is 25% provided total turnover or gross receipts in previous year 2016-17 does not exceed INR 250 Crores. This amount has been raised from 50 Cr to 250 Cr. In addition to this surcharge and Health & Education cess @ 4% will be levied.

⊙ Other the above domestic companies, will have to pay income tax @ 30% plus surcharge and Health & Education cess @ 4% will be levied.

⊙ "Education Cess & Higher Education Cess" is replaced by "Health & Education Cess". Rate for Health & Education Cess will be 4 % instead of 3% EC & SHEC. Thereby marginal increase in outlay of Income Tax for all tax payers except salaried person.

⊙ Salaried assessee will have standard deduction of Rs 40,000/-. However the transport allowance (Rs 19,200) and reimbursement of medical expenses (upto Rs 15,000 – support with actual bills) will not be available. For employee getting deduction of both these expenses in full will have net relief of Rs 5,800/- only.

⊙ Long Term capital gains in excess of Rs 1 Lacs @ 10% will be payable on sale of long terms equity shares / units of equity funds in case the LTCG exceeds Rs 1 Lacs. Differential value for the capital gains will be considered at rate prevailing on 31st Jan 2018 or cost of acquisition whichever is higher.

⊙ Fair Market Value of inventory which is converted to Capital Assets will be considered as Business Income while computing income from Business or profession.

⊙ Receipt of compensation by employees in connection with termination of employment will be termed as Income. Such Income is slated to taxed under the head of "Income from Other sources" which was never taxed earlier.

⊙ Concept of "significant economic presence" included in the Section 9 to decide the income from Business Connections in India in case of Non-residents. This provision set to tax the digital transactions like download of information / software in India. Over the period of time provisions of DTAA will be amended to give effect of this provision considered DTAA treaties.

⊙ Income tax exemption of 40% of amount withdrawn from NPS account (at the time of closure) will be applicable to all the assessee. Earlier it was restricted to employees only.

⊙ Any compensation received or receivable, whether revenue or capital, in connection with the termination or the modification of the terms and conditions of any contract relating to its business shall be taxable as business income.

⊙ Presumptive Income from plying vehicle having weight more than 12T will be Rs 1000 per tonne of vehicle for

transporter having less than 10 vehicles.

⊙ Deduction under Section 80D has been increased to Rs 50,000/- in case of medical expenditure / insurance premium in case of senior citizens.

⊙ The deduction on medical expenditure on specified diseases has been increased to Rs 100,000/- in case of senior citizens.

⊙ Deduction up to Rs 50,000/- will be allowed in interest earned by Senior citizens from deposits made in Banks, Co-op Society or Post Office Scheme.

⊙ Financial Service Centre (IFSC) will be subjected to reduced rate of the alternate minimum tax will be 9% instead of 18.5%.

⊙ Deemed dividend are subject to Dividend Distribution Tax (DDT) at the rate of 30% (without grossing up). This amendment is brought to tax the deemed dividend in the hand of the company instead of recipient.

⊙ Additional tax of 10% will be chargeable on income distributed by an equity oriented fund to any person.

⊙ PAN made compulsory for:

- ❶ Persons, other than individual, who executes any financial transactions exceeding Rs.2.50 Lakhs in a financial year.
- ❷ who is the managing director, director, partner, trustee, author, founder, karta, chief executive officer, principal officer etc.

⊙ E-assessment scheme has been mooted for all Income tax assessment. This is welcome step to bring in more transparency and eliminating the interface between the Assessing officer and the assessee new scheme is to be introduced by Central Government for scrutiny assessments.

⊙ For computing profits and gains of business or profession income computation and disclosure standards (ICDS) to be followed w.r.t. valuation of inventories, validation of purchases and sale of goods, inventory being securities, etc.

Customs Act

⊙ Education Cess and SHE Cess has been abolished and replaced Social Welfare surcharge with peak rate of 10%. The surcharge will be levied on aggregate of custom duties exempting charge on IGST.

⊙ Name of CBEC has been changed to Central Board of Indirect Taxes and Customs (CBITC).

⊙ The errors and omissions in the drafting in the

Customs Act, 1962 has been corrected.

- Scope of assessment has been clear cut mentioned so as to include classification, valuation, exemptions, quantity, weight, volume and measurement, origin of goods and other specific factors for provisional assessment, self-assessment, re-assessment and any assessment even if duty is nil.

- The limit of Indian Custom Water has been extended for the coverage under the Customs Act.

- Even if there are restrictions, prohibitions or obligations w.r.t. import & exports under any other law e.g. IGST Act or Foreign Trade Policy etc. until notification under Customs Act is issued, such amendment in other laws will not have any impact under Customs law. This change will be effected from the date to be notified by the Central Government.

- Focus on risk based assessment and filing of the documents in e-mode or on Customs Automated Systems of ICE Gate.

- Time limit and procedure will be notifying for making a final assessment in case of the provisional assessment and importer / exporter has to furnish the documents within the time limit prescribed for finalization of the assessment.

- This provision has been Inserted, so as to empower Central Govt. To exempt or to grant partial exemption for re-importation and exportation thereof within 1 year period for repairs or further processing from the date of let export order.

- Provision has been made for pre-consultation before issuance of SCN w.r.t. Duty, interest and penalty.

- Even in case of suppression of facts, collusion or misstatement, Appeal is allowed demand of duty along with interest, considering that SCN is deemed to be issued within time limit and therefore demand at least for pertaining to one year will sustain. Explanation 4 has been inserted in section 28 (10B) in so as to give retrospective effect to this provision from 14th May 2015.

- Provision has inserted so as to issue the supplementary notice.

- Appellate Authority will be the same as constituted under Income Tax Act. This is in line with provisions of GST so as to have appeal before Appellate Authority against the order of Advance Ruling Authority.

- Decision of Appellate Authority has to be given within the period of 3 months. Period has been reduced to 3 months.

- Custom duty payment through electronic cash ledger has been introduced, so as to allow to pay in advance the amount of duty, tax, penalty, interest etc.

- Since Risk based Assessment System and Self

Assessment System, Audit is introduced at the premises of the Auditee.

- The Commissioner Appeals can remand the case de-novo with specified circumstances.

- New provisions has been made to empowering the Govt. for reciprocal arrangement for exchange of information facilitating the trade.

- SCN or orders or Summons or any letters can be issued by hand and can be delivered to employee, CHA, Advocate or any adult member of family or can be issued by Post or sped post or courier with acknowledgement receipt or electronically through email on the address available with customs, publishing in news paper or affixing the same on the last known address of the office / business or uploading of the official website of the notice board. This will really cause the hardship for filling the reply / documents/ appeals in the prescribed period and importer / exporter will lose their appellate remedy.

- Government will prescribed the rules for d) the time and manner of finalization of provisional assessment; o the manner of conducting pre-notice consultation;

- the circumstances under which, and the manner in which, supplementary notice may be issued;

- the form and manner in which an application for advance ruling or appeal shall be made, and the procedure for the Authority, under Chapter VB;

- the manner of clearance or removal of imported or export goods; o the documents to be furnished in relation to imported goods;

- the conditions, restrictions and the manner of making deposits in electronic cash ledger, the utilisation and refund therefrom and the manner of maintaining such ledger;

- the manner of conducting audit;

- Tariff Rate of Custom duties on number of goods has been increased to curb imports and to promote make in India. Item wise rates are given separately. **MA**

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POWER TRANSMISSION SECTOR

An Overview of Progress and Challenges

Power is one of the most critical components of Infrastructure crucial for the economic growth and welfare of the nations. The existence and development of adequate infrastructure is essential for sustained growth of the Indian economy. India's Power Sector is one of the most diversified in the world. Sources of the power generation range from conventional source such as Coal, Lignite, natural gas, oil, hydro and nuclear power to various conventional and non-conventional sources such as wind, solar and agricultural and domestic waste. Electricity demand in this country has increased rapidly and is expected to rise further in the years to come. The power generation installed capacity of power station in India stood at 330261 (MW) as on November 2017 comprising of Coal (58%), Res (18%), Hydro (14%), Gas (8%) and nuclear (2%). It is noteworthy to mention that almost 5000-6000 MW being added every year through renewable mode of Power Generation. Through, India is the world's largest electricity producer after U.S. and China and Japan, the per Capita consumption fares amongst lowest in the world.



CMA Bibhudatta Sarangi

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Maharashtra Eastern Grid Power Transmission Company Ltd,
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The Power transmission Sector has witnessed robust growth in the past one year mainly due to the change in recent policy regulatory and government initiative. Power Grid Corporation of India Limited (PGCIL) is a Central transmission utility responsible for planning interstate transmission System (ISTS) similarly there are State transmission utilities (STU) namely State Transco /SEB responsible for development of intra state transmission System. 13820 Circuit Kilometre (Ckt. KM) of the transmission Lines have been commissioned during the FY 2017-18 (April -Nov 17). This is the 60% of the target achieved for the whole financial year 2017-18 (23086 Ckt. Km). Similarly, 50805 MVA of transformer Capacity of Substation has been added during the FY 2017-18 (April -Nov 17) which constitutes 94.10 % of the annual target of 53978 MVA fixed for the FY 2017-18.

The Capacity of transmission System of 220 KV and above voltage levels in the country as on 30th Nov 2017 was 381671 Ckt Km of transmission lines and 7,91,570 MVA/MW of transformation capacity of Substation. The transmission Lines are operated in accordance with the regulations of CEA (Central Electricity Authority), CERC (Central Electricity Regulatory Commission) and SERC (State Electricity Regulatory Commission). Both the Central and State government are responsible for development of Power Sector in India. Power System Operation Corporation (POSCO) is managing the national grid from National Load Dispatch Center (NRLDC) and its five regional Load dispatch center (RLDC) through the State of the art unified load despatch and communication facilities.

In the past one year Ministry of Power (MOP) announced several policy and regulatory measures to increase transparency, integrate renewable energy and expedite project implementations. The Ministry of Power, Government of India, has taken various measures to achieve its aim of providing 24x7 affordable and environment friendly 'Power for All' by 2019, which includes preparation of state specific action plans, and implementation of Green Energy Corridor for transmission of renewable energy, among other measures. In July 2016 the MOP released the recommendation for the revision of the Standard bidding document for the development of the interstate transmission sector under the tariff based Competitive bidding (TBCB) process. The key recommended changes are switching from Build-Own-Operate-Maintain model to the Build-Own-Operate-Transfer model.

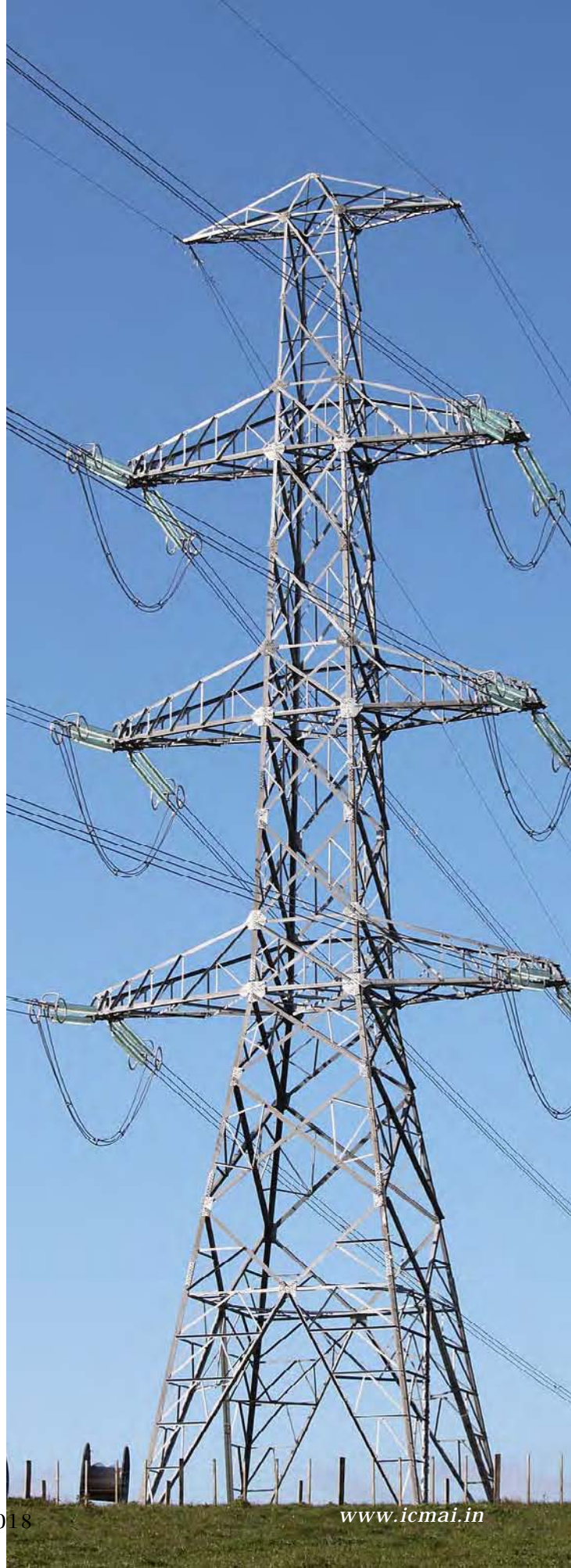
The Union Power Ministry has launched 'e-Trans' & 'DEEP' e-bidding web portals for electronic bidding and e-reverse auction of tariff-based electricity transmission Projects. These portals have been developed by Rural Electrification Corporation Transmission Projects Company Limited (RECTPCL), a subsidiary of REC Ltd. These portals seek to enhance transparency in power transmission sector. It marks shift from present manual auction process to electronic mode for determining the lowest bidders for the Project. Besides, the minister also launched 'TARANG' (Transmission App for Real Time Monitoring and Growth) Mobile Application and portal. It will be used to monitor execution of the under construction power transmission projects. It tracks upcoming transmission projects and monitor the progress of Inter-State transmission systems in the country.

The MOP released the guide lines on Cross Border Trade of Electricity in Dec 2016 to provide policy frame work for accelerating power exchange across South Asian Region. The CERC vide notification No13/2/7/2015/PM/CERC dtd. 16th Feb 2017 has notified the guidelines on Cross Border Trade of Electricity. The guidelines were issued in response to the Petitions filed by the Indian Energy Exchange and Tata Power Trading Company Limited with the CERC seeking approval for enabling the Cross border transactions through the Power Exchanges. The CERC notified the Draft Central Electricity Regulatory Commission (Transmission Planning ng and other related matters) Regulations vide Notification No. L-1/220/2017-CERC Dtd. 26th April 2017. The aim of the above notification is to redefining the roles and responsibilities of various entities in order to strengthen the transmission planning process. The Niti Aayog released the draft national energy policy which main objective is to chart the way forward to meet the Government's recent bold announcements in the energy domain. The NEP has proposed the Several strategies to facilitate the integration of renewables into the grid in respect of transmission.

The MOP is also seriously thinking of changing of Central transmission utility function of the Power Grid Corporation of India Limited (PGCIL) to attract Private players in the Transmission Sector. Although the matter is going on since 2015, no major progress has been done so far. The government is now considering the CTU function to other PSU under MOP.

Private Participation

The government is seriously looking for private sector



investment in expanding the country High voltage Grid. But it is disheartening to note that pace of progress in awarding of project through TBCB mode is slow. During FY 2015-16 nine projects having investment over Rs. 118 billion awarded through this route. In Comparison only five projects worth Rs. 52 billion were awarded through this route in FY 2016-17.

Grid Expansion Programmes

High Capacity transmission Corridors have been constructed for evacuating power from Independent Power Producer aggregating 62GW. 11 nos. of High Capacity Power Transmission Corridors (HCPTCs) have been finalized to meet bulk power evacuation requirement of various Independent Power Producers (IPPs) mainly coming up in resource rich and coastal States such as Chhattisgarh, Odisha, Madhya Pradesh, Sikkim, Jharkhand, Tamil Nadu and Andhra Pradesh at an estimated cost of about Rs. 75,000 Crore (POWERGRID's scope: about Rs. 66,000 Crore). Implementation of these corridors has been taken up in a phased manner matching with generation projects. PGCIL is constructing the majority of the HCPTC Projects, Four of them have been commissioned, implementation of one is uncertain and remaining are under progress.

India's central transmission utility, Power Grid Corporation of India Limited (Power grid), developed the Green Energy Corridors (GEC) scheme to facilitate the transfer of power from the renewable energy-rich states of Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Rajasthan and Tamil Nadu, as well as to ensure efficient grid integration in light of the intermittent nature of renewable energy. Under the first phase of the GEC, 17,000 ckt. km of line length and 34,600 MVA of substation capacity is planned to be added. Of this, 13,600 ckt. km and 16,650 MVA will be at the intra-state level, and 3,400 ckt. km and 18,000 MVA at the interstate level.

Impact of GST

As we are aware the Transmission is added in the negative list, no input tax credit is being allowed in under GST. The Companies are being compelled to absorb the differential cost due to rate of increase of tax from 2% to 18% under Inter State purchase and 15% to 18% under Services. Similarly the government must consider the change in Law Petition of Private players those who are constructing transmission lines under TBCB route for Compensatory tariff due to enhanced Cost due to GST. The Power Transmission Service should be added in Zero Tax Category so that Input tax credit under GST Can be

taken by the Power Transmission Companies.

After the introduction of GST, the Transmission Company had to paid the GST on Right of way charges paid to the farmer who is not registered under GST Act as the same was covered under GST as a Service from the unregistered dealer. Further the Government Vide notification no. 38/2017-Central Tax (Rate), dt. 13-10-2017, the transaction limit of Rs. 5000/- in a day has been omitted. Further, the exemption from payment of GST under reverse charge by a recipient is made applicable to all the registered persons. However, this exemption is valid till 31/03/2018. Similar changes have been made in IGST, vide notification no. 32/2017-Integrated Tax (Rate), dt. 13-10-2017. In view of above, till 31/03/2018, there is no need to pay GST under reverse charge towards supply of goods / services procured from un-registered persons. The government must extend this notification further as it is a blow on Power Transmission Companies to pay GST on ROW amount paid to a farmer who is unregistered dealer under GST Act.

Conclusion

There has been remarkable achievement made in Grid expansion in the past few years with the smart policy and regulatory decisions taken by the government to promote competition and ease project execution. Despite significant growth, the Transmission segment continues to face the challenges such as RoW, transmission congestion, lack of TBCB projects and lack of investment. The government must look into these issues at the earliest so as to keep the grid expansion plans on track. **MA**

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HARNESSING SOLAR POWER: A VIABLE INVESTMENT AVENUE FOR INDUSTRIES



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India is endowed with an abundance of sunlight as it is located in the tropical zone of the earth; and receives 4-7 kWh of solar radiation per sq.m per day. This study explores the commercial viability of on-grid solar power project for industrial consumption. Hence, this study employs the benchmark rate published by Ministry of New and Renewable Energy and Tamil Nadu Generation and Distribution Corporation Ltd. The various financial techniques used to substantiate the commercial viability of solar power project suggest that on-grid is viable for industrial consumption. It also reveals that on-grid reaches grid parity regardless of capacity. Moreover, it is divulging from this study that solar would be a great investment avenue for industrial promoters.

According to the World Bank Report, in India 300 million people (24%) are not connected to the National Electrical Grid (Pargal & Banerjee, 2014). Basically, the country relies on thermal power for its survival and the fuel for thermal is coal, oil or gas. India's reliance on imported fossil fuels rose to 38 per cent in 2012, in spite of having considerable domestic fossil fuel resources, thus being considered as unsustainable (Energy Information Administration, 2014). In order to make the country sustainable in energy sector, various alternative energy sources should be promoted. There are various alternative energies which gain momentum in the recent era, such as wind, solar, geothermal, bio fuel, etc. All types of clean energy have their own pros and cons. Wind and geothermal are subject to the areas where there is a heavy flow of wind and hot rock respectively, while biofuel requires large quantities of input to generate energy (Finkler, n.d). However, India is blessed with an abundance of sunlight as it is located in the tropical zone of the earth and receives 4-7 kWh of solar radiation per sq.m per day (Ministry of New and Renewable Energy, 2012). It is uniquely placed to tap sunlight to meet up the rising energy requirements. The abundantly available solar energy can be exploited in two ways, such as solar photovoltaic and solar thermal.

Solar Photovoltaic (PV) panels convert sunlight into direct electricity that can be used to supplement or replace the electricity supplied by the utility grid. PV panels are most commonly installed on rooftops and are most effective

with a southerly exposure that provides full sun. Solar thermal uses collector plates to harness the sun's energy to heat water in homes, business places and pools, etc.

The installation and appearance are much like those of the PV panel, and the collectors are best installed facing south, under unobstructed sunlight.

Unlike PV panels, solar thermal collectors do not convert sunlight into electricity, but transfer the energy directly to the water (Kashong

E n e r g y

Partners, n.d). A solar photovoltaic system may either be off-grid or on-grid. Off-grid system is connected to a battery, which accumulates power and utilises it when there is no power generation. However, on-grid does not have battery, rather it is connected directly to the grid. Therefore, it cannot function during power outage (Chua, 2016). However, on-grid is best suited for higher capacity projects as there is no requirement for batteries.

The central and state governments recognised the significance of solar power by initiating their own solar power policies, namely Jawaharlal Nehru National Solar Mission (JNNSM) and Tamil Nadu Solar Energy Policy. The JNNSM was launched on 11th January, 2010 by the then Prime Minister of India. The mission had an ambitious target of deploying 20 GW of on-grid and 2 GW of off-grid capacity by 2022 in three phases (MNRE, 2012). However, the present Prime Minister, Shri Narendra Modi, has elevated the target by five times, reaching 100 GW by 2022. The target comprises of 60 GW through on-ground solar power projects and 40 GW from decentralised grid connected solar rooftop projects (Solar Energy Corporation of India Ltd., n.d.). The total deployed capacity of solar power in India has now crossed 5 GW; comprising 4.7 GW of utility scale and 0.525 GW of rooftop solar power (Bridge To India, 2015). The Tamil Nadu Solar Energy Policy was made public in 2012, intended to achieve 3 GW of solar power by 2015, of which 1.5 GW of utility scale, 1.15 GW and 0.35 GW from REC and solar rooftop respectively (Tamilnadu Energy Development Agency, 2012). Nevertheless, the accomplishment of target is far from the realism as the state has deployed 1.061 GW of solar power until March 2016 (TEDA, 2016).

Tamil Nadu is known for wind power and it remains top among all the Indian states. Wind power performs best during monsoon as wind speed is high, whereas solar performs best during non-monsoon as solar insolation is high. Wind power outperforms only in the southern part of Tamil Nadu as there is intense wind flow, whereas solar potential is evenly spread across the state. Despite both Central and State governments came up with their own solar power policies, still solar is at a nascent stage.

The key reason for the slow augmentation of solar power generation is a lack of awareness about the commercial viability of solar power project among different stakeholders. Therefore, this paper proposes to explore the commercial viability of solar power project for industrial promoters as they require substantial power.

Methods

Literature Review

There were few studies in India, which assessed the efficacy of solar power policy and commercial viability of solar power project. It is witnessed from the literature that there is no comprehensive study to discuss the viability in terms of diverse capacities and sources of fund. The outline of the earlier studies is cited below:

Solar energy is one among the most potential clean energy sources. The energy received from the sun is a thousand fold superior to the present consumption rate of all commercial energy sources in the earth (Nayak, 2012). The key factors which trigger off the customers to opt for solar power are dearth of electricity and high cost of electricity (Chinnammai, 2013). The various policy measures used to support rural and household-scale clean energy systems include energy scheduling of government at various levels, initiation of rural clean energy marketplaces, flexible credit, utilising revolving fund as well as incentive policies as a fiscal mechanism, and augmenting the worldwide collaboration to promote clean energy technology (Byrne, Shen & Wallace, 1998). The first phase of JNNSM could not perform up to the expectations; however the state level policies have performed well to fill the gap. Overall visibility of solar power generation has been enhanced after revising the second phase of JNNSM and the initiation of solar cities (Gupta & Anand, 2013). Solar power structures are easily accessible for manufacturing and household use with an added advantage of less maintenance. Government tax incentives and rebates are essential to guarantee the financial viability of solar power. An economical cost base will be at the core of flourishing solar ventures in India (Srivastava & Srivastava, 2013).

The photovoltaic Levelised Cost of Electricity (LCOE) continues to turn down owing to the advancement of manufacturing experience, thus solar can turn into an economical source of electricity (Yaqub, Sarkni & Mazzuchi, 2012). However, awareness of the present cost of solar power lags among many commentators, policy makers and energy users due to drastic fall in module price, the prevalence of outdated information, and ambiguity

surrounding many of the metrics and concepts (Bazilian et al., 2013). Elevating Research and Development activities and attracting more foreign funding would bring down the cost of solar (Muhammad-Sukki, Ramirez-Iniguez, Abu-Bakar, McMeekin & Stewart, 2011). Finally, it is projected that solar power prices could be up to 10 per cent lesser than coal power prices by 2020. Moreover, solar has already achieved grid parity with imported coal; however, it is expected to achieve grid parity with domestic coal by 2020 (Klynveld Peat Marwick Goerdeler, 2015).

Empirical Evidences

In this study, the commercial viability of a solar power project has been computed employing the benchmark rate published by Ministry of New and Renewable Energy (MNRE) and Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO) in 2015. The investment cost has been calculated using MNRE benchmark rate of Rs. 80/ watt for up to 500 KW of grid-connected project. As MNRE has made public the benchmark rate up to 500 KW only, TANGEDCO mentioned cost has been considered for 1 MW project. In order to identify the revenue from solar power generation, the generated power has been converted into monetary value using TANGEDCO tariff. As the solar power project has 25 years of life span, the tariff is being considered with 2 per cent annual escalation so as to consider the time value of money. The operating and maintenance cost would be 1.4 per cent of the project cost in the first year and it has been elevated to 5.72 per cent every year as decided by TANGEDCO in their assessment. The annual power generation for 1 KW to 10 KW project has been computed by considering 4 units of generation per day for 330 days. Thereafter, it has been escalated to 4.5 units until 100 KW and 4.52 units thenceforth. In order to consider the degradation of panel, 1 per cent reduction in power generation on a yearly basis has been considered. Industrial promoters are not entitled to avail the State government subsidy as well as Central Financial Assistance (CFA) offered by MNRE. The central government offers an accelerated depreciation benefit of claiming 80 per cent of the project cost in the first year and the remaining in the subsequent year as there is no subsidy benefit. Therefore, the tax benefit of accelerated depreciation has been added to the notional revenue of the industrial promoters. The widely followed recent fixed deposit interest rate of 8 per cent is treated as the discount rate for considering the time value of money. The commercial viability analysis is done with the help of various financial metrics such as Payback Period, Return on Investment (ROI), Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index

(PI), Post Payback Profitability and LCOE. Moreover, the commercial viability analysis focuses diverse capacities with a different state of affairs such as own and mixed fund.

Results and Discussion

Industrial promoters are opting on-grid solar power project to shun the battery problem. Solar power project can either be fully funded by the promoter or using borrowed funds partials. Thus, the commercial viability

differs with the situation and its assessment has been categorised into own and mixed fund projects.

Commercial Viability of Own Fund Project

On account of power consumption, industrial promoters generally prefer the capacity of 10 KW and above. The net cash inflow has arrived after deducting operating and maintenance cost from the notional revenue. However, the tax benefit of accelerated depreciation has been added to the notional revenue of industrial promoters.

Table 1: Commercial Viability of Own Fund Project

Particulars	Own Fund			
	10 KW	100 KW	500 KW	1 MW
Initial Investment	Rs. 8,00,000	Rs. 80,00,000	Rs. 4,00,00,000	Rs. 7,00,00,000
Net cash inflow	Rs.23,05,865	Rs. 2,31,76,668	Rs. 11,58,83,339	Rs. 23,61,51,539
Average annual cash inflow	Rs. 92,235	Rs. 9,27,067	Rs. 46,35,334	Rs. 94,46,062
Average annual power generation	13,197 units	1,32,561 units	6,62,803 units	13,25,607 units
LCOE	Rs.4.2	Rs.4.2	Rs.4.2	Rs.3.7
Payback period	8.7 years	8.6 years	8.6 years	7.4 years
Annual ROI	11.5%	11.6%	11.6%	13.5%
NPV	Rs. 3,08,101	Rs. 31,29,552	Rs. 1,56,47,744	Rs. 4,11,06,691
IRR	13%	14%	14%	16%
PI	1.39	1.39	1.39	1.59
Post Payback profitability	Rs. 15,03,431	Rs. 1,52,03,899	Rs. 7,60,19,478	Rs. 16,62,50,691

Note: Net cash inflow = (Revenue from savings + Tax benefit of accelerated depreciation) - Operating and maintenance cost

In case of solar power projects being funded by the industry on its own, the commercial viability is as follows:

Concerning 10 KW project, the payback period will be 8.7 years, which means the amount invested in the project can be recouped in 8.7 years. The project would give the ROI of 11.5 per cent per annum, which is greater than the return from other forms of investment. The NPV is the difference between the present value of cash inflow and outflow,

which will be Rs. 3,08,101. The IRR shows that the return after discounting the time value of money, which will be 13 per cent, seems attractive. The PI of 1.39 explains that the profit will be far higher than the cost. And the project proposes to provide a post payback profitability of Rs. 15,03,431. Finally, the LCOE will be Rs. 4.2 per kWh.

The commercial viability outcome of 100 KW and 500 KW projects are neck and neck to 10 KW project. However,

the outcome of 1 MW proposed that it is relatively better than that of other capacities. It is evident from the table that solar power project is commercially viable for industrial promoters. Moreover, the result indicates that 1 MW project would be highly viable than other capacities to industrial promoters owing to reduction in initial investment and increase in power generation.

Commercial Viability of Mixed Fund Project

The commercial viability of the mixed fund project is worked out with the following widely acclaimed assumption: (a) debt and equity mix of 30:70 (b) tenure of the loan as 7 years (c) rate of interest as 12.5 per cent. Thus, the net cash inflow has arrived after deducting operating and maintenance cost and interest on loan from the notional revenue.

In case of industry preferring mixed fund investment, the

commercial viability is as follows:

In view of 10 KW project, the payback period will be 9.9 years, which is higher than that of own fund project. The project would give the ROI of 10.1 per cent per annum, which is relatively lesser than that of own fund project. The NPV and IRR will be Rs. 82,049 and 9 per cent respectively. The PI of 1.10 is also lesser than that of own fund project. The project proposes to provide a post payback profitability of Rs. 12,21,801. Lastly, the LCOE will be Rs. 5.1 per kWh.

The commercial viability of 100 KW and 500 KW projects is expected to be comparable to 10 KW project. In case of 1 MW project, the financial indicators exposed that the outcome is relatively better than that of other capacities. It is evident from the table that solar power project is commercially viable for industrial promoters even in mixed fund cases as well.

Table 2: Commercial Viability of Mixed Fund Project

Particulars	Mixed Fund			
	10 KW	100 KW	500 KW	1 MW
Initial Investment	Rs. 8,00,000	Rs. 80,00,000	Rs. 4,00,00,000	Rs. 7,00,00,000
Net cash inflow	Rs. 20,22,849	Rs. 2,03,46,517	Rs.10,17,32,589	Rs. 21,13,87,722
Average annual cash inflow	Rs. 80,914	Rs. 8,13,861	Rs. 40,69,304	Rs. 84,55,509
Average annual power generation	13,197 units	1,32,561 Units	6,62,803units	13,25,607 units
LCOE	Rs. 5.1	Rs. 5.1	Rs. 5.1	Rs. 4.4
Payback period	9.9 years	9.9 years	9.8 years	8.3 years
Annual ROI	10.1%	10.1%	10.1%	12.1%
NPV	Rs. 82,049	Rs. 8,69,035	Rs. 43,45,164	Rs. 2,13,27,173
IRR	9%	9%	9%	12%
PI	1.10	1.11	1.11	1.30
Post Payback profitability	Rs. 12,21,801	Rs. 1,22,89,301	Rs. 6,18,53,421	Rs. 14,12,07,000

Note: Net cash inflow = (Revenue from savings + Tax benefit of accelerated depreciation) - (Operating and maintenance cost + Interest on loan fund)

Expediency of Solar Power Project for Industrial Promoter

The expediency of a solar power project for industrial promoter depends on the cost savings of deploying solar power

project. Thus, the solar LCOE is being compared with TANGEDCO tariff to spot the cost savings.

Table 3: Expediency of Solar Power Project

Solar Power Capacity	TANGEDCO (Rate per unit)	Solar (LCOE)		Rate differential (Savings in %)		Preference	
		Own	Mixed	Own	Mixed	Own	Mixed
10 KW	Rs. 6.35	Rs. 4.2	Rs. 5.1	34	20	SOP	SOP
100 KW		Rs. 4.2	Rs. 5.1	34	20		
500 KW		Rs. 4.2	Rs. 5.1	34	20		
1 MW		Rs. 3.7	Rs. 4.4	42	31		

Source: Computed by the authors

The TANGEDCO tariff for industries is Rs. 6.35 irrespective of the unit of power consumption. It is apparent from the table that solar power is highly suitable for industrial promoters as it saves 34 to 42 per cent and 20 to 31 per cent of tariff in view of own and mixed fund projects respectively. Therefore, the solar power best suited for industrial promoters as their electricity tariff is high.

Comparison of Solar and Diesel Power

The industrial promoters consider the diesel generator as an alternative to TANGEDCO power. However, the generation cost of diesel generator is far higher compared to solar. Thus, the solar LCOE is compared with the rate per unit of diesel generator so as to exhibit the rate of savings.

Table 4: Comparison of Solar and Diesel Power

Solar Power Capacity	DGet (Rate per unit)	Solar (LCOE)		Rate differential (Savings in %)		Preference	
		Own	Mixed	Own	Mixed	Own	Mixed
10 KW	Rs. 15	Rs. 4.2	Rs. 5.1	72	66	SOP	SOP
100 KW		Rs. 4.2	Rs. 5.1	72	66		
500 KW		Rs. 4.2	Rs. 5.1	72	66		
1 MW		Rs. 3.7	Rs. 4.4	75	71		

Source: Computed by the authors

As per MNRE, a unit cost of diesel power generation is Rs.15 as about 3 units of power can be generated from 1 litre of diesel. It is clear from the table that solar power is highly suitable for the industries which use diesel generator as it saves 72-75 per cent and 66-71 per cent of electricity cost in case of own and mixed fund projects respectively.

Conclusion and Practical Implications

The commercial viability analysis of a solar power project suggests that solar is highly viable for industrial promoters. Moreover, on-grid solar power project is commercially viable in both own and mixed fund cases. It is divulged from this study that solar would be a great investment avenue for industrial promoters irrespective of the project capacity. However, 1 MW project would be highly viable than that of other capacities owing to drop in investment and the rise in power generation. It also unveiled that on-grid reaches grid parity in both own and mixed fund cases regardless of the project capacity. Furthermore, expediency would enhance in the coming days owing to rise in electricity tariff and drop in module cost. **MA**

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TRANSFORMING ENERGY SECTOR - BUILDING BRIGHTER INDIA, ELECTRIFYING HOPE FOR ALL!



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“Bijli Bachao Desh banao”, we must have heard this appeal of Ministry of Power to save electricity, save money and help India to grow. Government of India has been taking continuous efforts to electrify India and transmit hope throughout the country. Energy acts as an engine for the growth and development of nation. There has been significant changes in the brightening and lightening in India. Let us have a glance of NASA's night time map showing brighter and glorified India. We, as a responsible citizen of India must save electricity so that the all houses

of far-fetched areas will also be electrified in coming years and NASA's report will show much brighter India sooner. This article throws a beam of light on the transformation of energy sector and efforts of government to make brighter and better India.

Global night time global map released by NASA on April 12, 2017 for the year 2016 shows the changing pattern

of human settlement across India. The study of earth at night released by NASA helps the researchers to observe the expansion of cities, estimation of use of energy and monitoring other activities. Let us have a glance of lightening of India in comparison to neighbourhood and change in lightening of India when compared with the year 2016:

Map showing lightening of India compared with neighbourhood



Source: NASA

Map comparing the night time lightening of India 2012 verses 2016



Source: NASA

Global energy architecture performance index benchmarks the nations on basis of three core dimensions, energy access and security, contribution to economic growth and environmental sustainability. There are 18 indicators with these three core dimensions and it measures the performances of 127 countries. India has been ranked at 87th position on Global energy architecture performance index, 2017.

Table 1: Top ten performers at global Energy Architecture Global Performance (EAPI), 2017	
Rank	Country
1	Switzerland
2	Norway
3	Sweden
4	Denmark
5	France
6	Austria
7	Spain
8	Columbia
9	New Zealand
10	Uruguay
87	India
95	China
52	US

Source: World Economic Forum

Transformation in clean or Renewable Energy in India

“For me, renewable energy is an article of faith. We are opting for green energy today for greener world tomorrow.”
–Hon’ble PM Shri Narendra Modi

The main sources of renewable energy in India come from solar power, wind power, biomass, hydro power and cogeneration bagasse. Total potential for renewable energy stood to be 1,198,856 MW as on 31.03.2016. The shares of different sources in the renewable energy are as follows:

Table 2 : Potential of renewable power in India as on 31.03.2016

Different sources	Percentage of share in total power potential
Solar power	62%
Wind power	34%

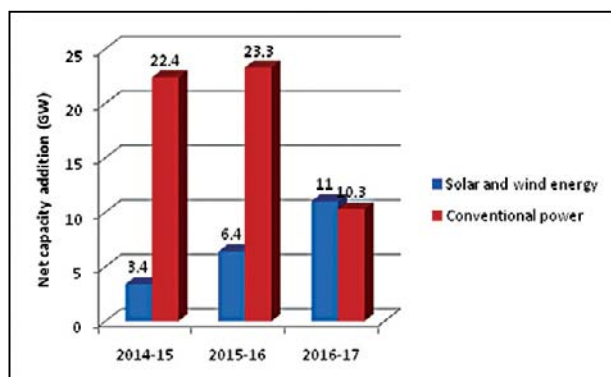
Different sources	Percentage of share in total power potential
Others: Share of sources in other powers:	4%
Hydro power	44%
Biomass	39%
Bagasse	11%
Wastage of Power	6%

Source: Ministry of statistics

The net capacity addition of renewable power of India exceeded to the conventional power for the first time in the year 2016-17. India is dedicated to world’s largest renewable energy expansion programme of 175 GW till the year 2022.

Building Solar India

India has been complimented as Jagat Guru by



International Solar Alliance. India has world's largest ground based solar plant and rooftop solar plant. National Solar Mission was launched on 11th January 2010 with the mission of deploying 20,000 MW of grid connected solar power by the year 2022. The mission is targeted to be implemented in three phases. The first phase will be from the year 2010-2013, second phase from 2013-2017, and third phase will constitute 2017-2022. In the first phase of National solar mission 78 projects were selected with the project capacity of 98 MW from 12 States. Out of 78 selected projects, 71 projects of total capacity 90.80 MW have been connected to grid. The state wise lists of projects are given below:

Table 3: State-wise estimated solar energy potential vs. Installed solar capacity in India as on 31.12.2016

Ranking of states based on installed capacity	State/UT	Solar potential (GW)	Installed capacity (MW) as on 31.12.2016
1	Tamil Nadu	18	1,590.97
2	Rajasthan	142	1,317.64
3	Gujarat	36	1,158.50
4	Andhra Pradesh	38	979.65
5	Telangana	20	973.41
6	Madhya Pradesh	62	840.35
7	Punjab	3	545.43
8	Maharashtra	64	430.46
9	Karnataka	25	327.53
10	Uttar Pradesh	23	239.26
11	Chhattisgarh	18	135.19
12	Bihar	11	95.91
13	UT & others	1	88.68
14	Odisha	26	77.64
15	Haryana	5	53.27
16	Uttarakhand	17	45.10
17	West Bengal	6	23.07
18	Jharkhand	18	17.51
19	Kerala	6	15.86
20	Assam	14	11.18
21	Tripura	2	5.02
22	Jammu & Kashmir	111	1.00

Ranking of states based on installed capacity	State/UT	Solar potential (GW)	Installed capacity (MW) as on 31.12.2016
23	Nagaland	7	0.50
24	Himachal Pradesh	34	0.33
25	Arunachal Pradesh	9	0.27
26	Mizoram	9	0.10
27	Goa	1	0.05
28	Manipur	11	0.01
29	Meghalaya	6	0.01
30	Sikkim	5	0.01

Source: National Institute of Solar Energy

Atal Jyoti Yojna

Government of India is dedicated to provide reliable power supply at fair price and it has been formulating several policies and programmes to achieve its targets. Atal Jyoti Yojna has been launched by the Ministry of New and Renewable Energy (MNRE) which targets to install solar LED street lights in rural, semi-urban and urban areas Pradesh, Assam, Bihar, Jharkhand and Odisha where the household electrification is less than 50% as per 2011 Census by March 2018. Under Atal Jyoti Yojna the solar systems having total capacities of 76.32 MWp which includes solar lanterns, solar home lights, solar street lights, solar pumps, mini/micro grids and power plants were installed in various States during the year 2016.

Table 4: Cumulative number of Solar systems installed across the country up to 31.12.2016

SPV systems	Cumulative number up to 31.12.2016
Solar lanterns	996841
Solar home lights	139636
Solar street lights	442936
Solar pumps	100521
Power plants MWp	172

Source: Ministry of new and renewable energy

Solar Urja Lamp Programme:

Solar Urja lamp programme aims to replace the kerosene wick lamps with solar lamps in households. Solar lamps contributes to save kerosene, reduce pollution and aids to better domestic livelihood. During the year 2014-16, one million lamps were distributed in 4 Indian states of Madhya Pradesh, Maharashtra, Rajasthan and Odisha, which covered 23 districts, 97 blocks and more than 10,900 villages. The objective of this program was developed and executed by IIT Bombay. Solar Urja Lamp program is cost effective strategy which targets to provide clean light for study purpose to each and every child in the country.

Ladakh Renewable Energy Initiative

The "Ladakh Renewable Energy Initiative" scheme of the

Ministry of New and Renewable Energy (MNRE) has been launched to promote the use of solar thermal systems for heating, cooking, and steam generating applications. The implementation of solar system proves to be boon for remote areas. Ladakh renewable Energy initiative has been planned to be implemented with the help of Kargil Renewable Energy Development Agency (KREDA) in Kargil and Ladakh Renewable Energy Development Agency (LREDA) in Leh District of Jammu and Kashmir. Around 6,700 solar water heating systems were installed till November 2016 in Kargil.

Changing Wind Power Energy

India is fourth largest wind power capacity in the world. (Source: GWEC). The wind power energy has been recorded

as 5,400 MW for the year 2016-17 and wind power energy constitutes 55% of total installed capacity of renewable energy 50,018 MW.

Table 5: Top ten countries with wind energy cumulative capacity till December 2016

Rank	Country	Megawatt (MW)
1	PR China	168,732
2	USA	82,184
3	Germany	50,018
4	India	28,700
5	Spain	23,074
6	United Kingdom	14,543
7	France	12,066
8	Canada	11,900
9	Brazil	10,740
10	Italy	9,257
	Rest of world	75,576
	Total top ten	411,214
	World total	486,790

Source: Global Wind Energy Council, GWEC

The states which lead the wind power energy capacity addition during the year 2016-17 are Andhra Pradesh at 2,190MW, followed by Gujarat at 1,275MW and Karnataka at 882MW. The state which tops the list in wind power energy at the end of the year 2016 is Tamil Nadu. State wise list of cumulative installed capacity by the end of year 2016 can be seen as follows:

Table 6: State-wise ranking for cumulative installed capacity (end of 2016)

Rank	State	Total installed capacity (MW)
1	Tamil Nadu	7,694.3
2	Maharashtra	4,666.1
3	Gujarat	4,441.5
4	Rajasthan	4,216.6
5	Karnataka	3,154.2
6	Madhya Pradesh	2,288.6
7	Andhra Pradesh	2,092.5
8	Telangana	98.7
9	Kerala	43.5
10	Other	4.3
	Total	28,700.4

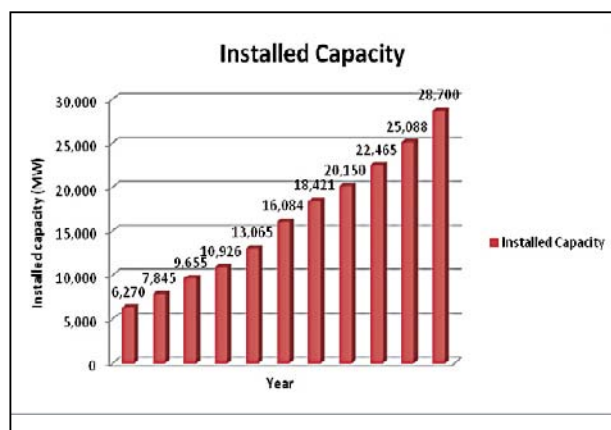
Source: Ministry of new and renewable energy

The total installed capacity of wind power was 28,700MW at the end of year 2016 whereas it was 6,270MW for the year 2006. The increase in total installed capacity of wind power in ten years can be viewed as follows:

Table 7: Total installed capacity (MW)

Year	Installed Capacity
2006	6,270
2007	7,845
2008	9,655
2009	10,926
2010	13,065
2011	16,084
2012	18,421
2013	20,150
2014	22,465
2015	25,088
2016	28,700

Source: Global Wind Energy Council, GWEC



Growth scenario for wind energy:

India is the second largest market for wind power energy in Asia and India aims to achieve 60 GW of cumulative wind power energy by 2022 out of renewable energy target of 175GW. The projected installed capacities for wind power energy under different scenarios by GWEC are as follows:

Table 8: Cumulative wind power capacity of India up to 2050

	2020	2030	2040	2050
New policies scenario	50,063	111,938	184,838	256,789
450 Scenario	67,098	155,736	254,827	358,314
Moderate scenario	44,734	116,257	227,137	372,830
Advanced scenario	56,297	163,473	294,184	452,197

Source: Global Wind Energy Council, GWEC

Bio-Power in India

Biomass power creates more socio-economic environmental impact on country than solar and wind energy. It can create 3.0 to 3.5 times more energy than created by solar or wind power plants of same capacity. Biomass power is more reliable and predictable source of energy than wind and solar powers. It is able to create good source of earning to farmers as the sale of animal wastes to power plants by these farmers enable them to earn bread and butter. Another important aspect of biomass power plants is India is not importing any equipment of biomass power plants unlike solar and wind energy power plants and thus enables our country to save foreign exchange. India is empowered with more than 5940MW bio-mass power plants out of which 4,946MW power plants are grid connected while more than 994MW are off grid plants. The progress of biomass based power can be viewed from the chart shown below:

Table 9: Physical progress of biomass based power

Sector	Achievements (capacity in MW as on 31.03.2016)
I. Grid interactive power	
Biomass power (combustion, gasification, and bagasse cogeneration)	4,831.33
Waste to power	115.08
Sub-total grid interactive	4,946.41
II. Off grid/ captive power	
Biomass (non bagasse) cogeneration	651.91
Biomass gasifiers	182.39

Sector	Achievements (capacity in MW as on 31.03.2016)
Waste to energy	160.16
Sub-total off grid	994.46
Total biomass based power	5,940.87

Source: Ministry of new and renewable energy

Biomass has been utilised to produce heat and electricity, or combined heat and power (CHP) plants in India. The Ministry of New and Renewable Energy (MNRE) provides Central Financial Assistance (CFA) to biomass power projects. It is provided in the form of capital subsidy and allotted on the basis of installed capacity, energy generation mode and its application.

Bottlenecks faced by the Indian Biomass Industry

The major challenge with the biomass power project is the availability of reliable biomass throughout the year. The biomass from the agricultural produce is available only for few months in a year. The supply chain and storage of biomass need to be improved to strengthen biomass energy production. Rural entrepreneurs should be encouraged to supply continuous biomass for energy production. There should be organised biomass market and innovative business models to encourage biomass power energy production in India.

Pradhan Mantri Sahaj Bijli Har Ghar Yojna: Saubhagya

Saubhagya is the scheme for electrifying un-electrified households in the country at the total cost of Rs 16,320 crore which includes Gross Budgetary support of Rs 12,320 crore from Government of India. The cost estimate under this project will be as follows:

Table 10: Summary of estimated cost

Particulars	Cost (Rs. Crore)	Gross budgetary support-GOI share (Rs. Crore)
For rural un-electrified households	14,025.00	10,587.50
For urban un-electrified households	2,295.00	1,732.50
Total	16,320.00	12,320.00

Source: Ministry of power

This scheme will provide last mile connectivity and electricity connections to all household in rural and urban areas. The financial assistance will be provided to all DISCOMs. The private sector DISCOMs, State power departments, rural electric cooperative societies will also be eligible under this scheme for financial assistance. Non poor urban households are excluded under this scheme. The financial support under this scheme has been summarised as below:

Table 11: Financial support under Saubhagya

Agency	Nature of support	Quantum of support (percentage of project cost)	
		Other than special category states	Special category states
Government of India	Grant	60	85
Utility/state contribution	Own fund	10	5
Loan (FI/banks)	Loan	30	10
Additional grant from GOI on achievement of prescribed milestones	Grant	15% (50% of total loan component, 30%)	5% (50% of total loan component, 10%)
Maximum grant by Government of India (including additional grant)	Grant	75%	90%

(Source: Ministry of power)

The special category states will be all north eastern states including Sikkim, Jammu & Kashmir, Himachal Pradesh and Uttarakhand. The households located in remote and in-accessible areas will be also electrified under this scheme. The electrification will be made through Solar Photo Voltaic (SPV) based standalone system. It will contain the power pack of 200 to 300 watt with battery back. The scheme will provide 5 LED lights, one DC fan, and one DC power plug along with repair and maintenance for five years. The scheme under Saubhagya will be available for the financial year 2017-18 and 2018-19. Any spill over work will continue till FY 2021-22.

“Saubhagya” providing really Saubhagya to the remote

areas households for whom the darkness of night will be electrified and the scorching heat of sun will be cooled down with DC fans.

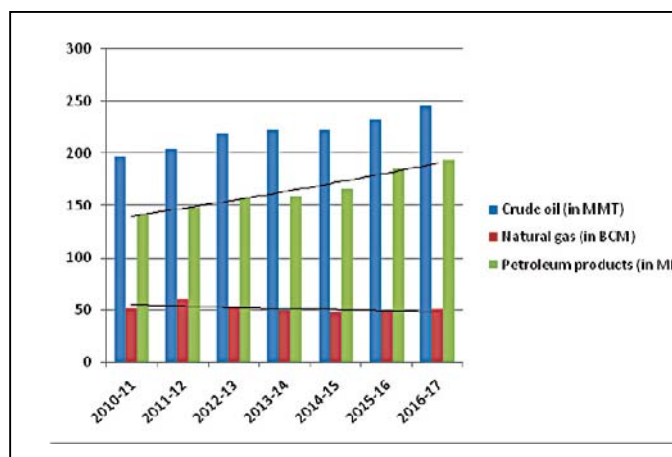
Petroleum Products And Natural Gas

The production of crude oil and natural gas shows declining trend from the year 2010 to 2017. According to ONGC the decrease in production is due to delay in deployment of MOPU-Sagar Samrat and delay in implementing the development of Western Periphery of MHS project and decline in mature fields of western offshore. The shortfall in production is also due to shutdown at Mangala Processing Terminal (MPT), Panna platform and poor reservoir performance of Bhagyam field.

Table 12: Total production of petroleum products and natural gas

Year	Crude oil (in MMT)	Natural gas (in BCM)	Petroleum products (in MMT)
2010-11	37.68	52.22	194.82
2011-12	38.09	47.56	203.20
2012-13	37.86	40.68	217.74
2013-14	37.79	35.41	220.76
2014-15	37.46	33.66	221.14
2015-16	36.94	32.25	231.92
2016-17	36.01	31.90	243.55

Source: Ministry of petroleum and natural gas

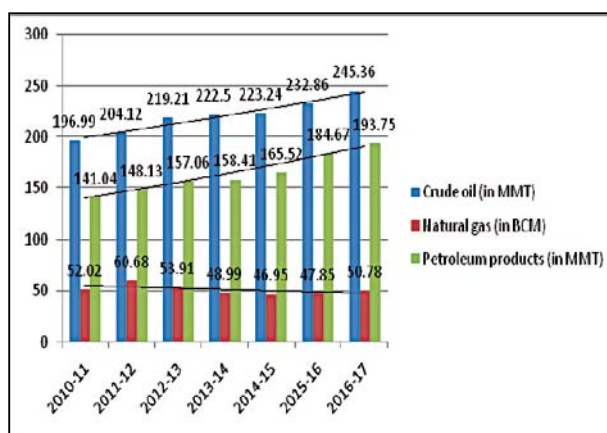


The total consumption of petroleum and natural gas has been increasing while the production of crude oil and natural gas has been declining.

Table 13: Total consumption of petroleum products and natural gas

Year	Crude oil (in MMT)	Natural gas (in BCM)	Petroleum products (in MMT)
2010-11	196.99	52.02	141.04
2011-12	204.12	60.68	148.13
2012-13	219.21	53.91	157.06
2013-14	222.50	48.99	158.41
2014-15	223.24	46.95	165.52
2015-16	232.86	47.85	184.67
2016-17	245.36	50.78	193.75

Source: Ministry of petroleum and natural gas



The consumption of crude oil and natural gas has been higher than production leading to import of crude oil and natural gas. The trend of net imports of petroleum industry has been depicted as follows:

Table 14: Net imports of petroleum products and natural gas

Year	Crude oil (in MMT)		Natural gas (in BCM)		Petroleum products (in MMT)	
	Quantity (in MMT)	Value (in INR billion)	Quantity (in MMT)	Value (in INR billion)	Quantity (in MMT)	Value (in INR billion)
2010-11	163.60	4552.76	9.93	143.62	-41.70	-1408.62
2011-12	171.73	6772.20	13.21	317.18	-44.99	-2165.53
2012-13	184.80	7846.52	13.14	419.02	-47.05	-2512.38
2013-14	189.24	8648.75	12.99	531.23	-51.17	-2923.83

Year	Crude oil (in MMT)		Natural gas (in BCM)		Petroleum products (in MMT)	
	Quantity (in MMT)	Value (in INR billion)	Quantity (in MMT)	Value (in INR billion)	Quantity (in MMT)	Value (in INR billion)
2014-15	189.43	6874.16	14.09	573.84	-42.63	-2139.36
2015-16	202.85	4165.79	16.14	450.38	-31.08	-1114.19
2016-17	213.93	4702.51	18.63	408.13	-30.10	-1241.66

Source: Ministry of petroleum and natural gas

Several initiatives have been taken by Government of India in the hydrocarbon sector. This includes the formulation of new Hydrocarbon Exploration and Licensing Policy (HELP), and Discovered Small Field bidding round 2016. These policies released in the year 2016 were in tune with the ease of doing business in India.

7. www.mospi.gov.in
8. www.biomasspower.gov.in

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Conclusion

The rank of India on ease of getting electricity index climbed up from 99 in 2015 to 26 in 2017 (lower number better position). The major portion of energy comes from non renewable sources like coal and oil. These non renewable sources of energy are not the sources of clean energy and increase the greenhouse gases in the atmosphere. The renewable sources of energy have shown major transformation and the net capacity addition of renewable power of India exceeded the conventional source of energy for the first time in the year 2016-17. India is dedicated to the world's largest renewable energy expansion programme of 175 GW till the year 2022. The government of India has been taking rigorous steps to increase the supply of electricity to the remote areas and continuous supply as well. The mission of government cannot be achieved without the support of citizens. Let us pledge and join hand with government to achieve the mission of electrifying the country and saving energy.

Bijli hum bachayenge! **MA**

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Important Dates

Last date of Abstract Submission	10.02.2018
Acceptance Notification of Abstract	12.02.2018
Last date of Full Paper Submission	20.02.2018

COST EFFICIENT UTILIZATION OF SOLAR ENERGY

A STUDY OF SHIVAMOGGA CITY



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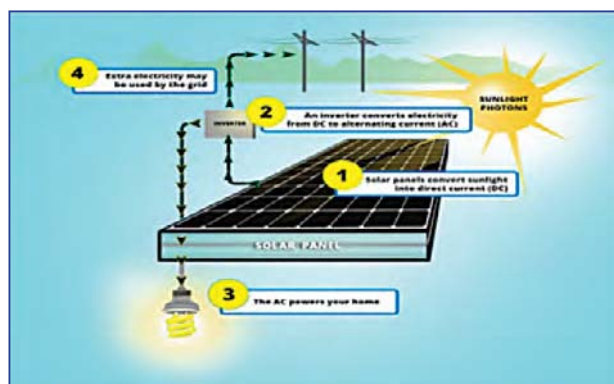
Our sun is a natural nuclear reactor. It releases tiny packets of energy called photons, which travel the 93 million miles from the sun to earth in about 8.5 minutes. Every hour, enough photons impact our planet to generate enough solar energy to theoretically satisfy global energy needs for an entire year. Currently photovoltaic power accounts for only five-tenths of one percent of the energy consumed in the United States. But solar technology is improving and the cost of going solar is dropping rapidly, so our ability to harness the sun's abundance of energy is on the rise.

A 2017 report from the 'International Energy Agency' shows that solar has become the world's fastest-growing source of power – marking the first time that solar energy's growth has surpassed that of all other fuels. In the coming years, we will all be enjoying the benefits of solar-generated electricity in one way or another.

Actually renewable energy comes either directly or indirectly from the sun. Solar energy drives the climate and weather and supports virtually for all life on earth. Solar energy technologies harness the sun's energy for practical ends. This energy works by capturing the sun's energy and turning it into electricity for home or business. Solar energy can be used for generating electricity, and for hot water heating and solar cooling. It is produced when



the sun is shining during the day and is complementary to wind energy, which tends to reach its highest production at night.



Source: <https://us.sunpower.com>

Solar Power in India

India's initiative of 100 GW of solar energy by 2022 is an ambitious target, since the world's installed solar-power capacity in 2017 is expected to be 303 GW. The improvements in solar thermal storage power technology in recent years has made this task achievable as the cheaper solar power need not depend on costly and polluting coal/gas/nuclear based power generation for ensuring stable grid operation.

In India, electricity is becoming expensive with each passing day and more people are getting interested in using solar energy to meet their electricity needs. Power cuts and dependence on DG sets is making people look for more and better sources. Solar PV panels provide a very good alternative and cost effective power resources. Ministry of New and Renewable Energy (MNRE), Government of India is also promoting solar PV systems under the Jawaharlal Nehru National Solar Mission in the country. They also providing a subsidy to people buying solar panels under this scheme. However, many people keen to buy solar panels in India as it is a cost effective means of energy. This made us to pick this topic for research.

Factors Affecting the Cost of Solar

It's important to understand that there isn't a one-size-fits-all answer to estimating the cost of installing a home solar system. Solar panel installation cost depends on multiple factors, including:

- State or local government's provide tax credits, net metering or other incentives;
- Individual finance system (e.g. lease, finance or purchase)
- The size and other characteristics of house roof
- Energy usage and the type of solar panelschoosen; and
- The cost of utility power in the area.

Review of Literature

- **R. Sophia Porchelviand K. Sathya**, (April 2015) **Cost benefits analysis of installing renewable energy**, they present a mathematical model for integrating renewable energy sources in order to meet an energetic demand in Nagapattinam district (south coastal region of Tamilnadu, India)with a lowest cost. This study focuses on making use of renewable sources as on alternative source of energy.The problem is formulated as an integer linear program where the objective function is to be minimizing the initial capital investment. The purpose of this works aims at showing the application of integrated energy sources will be cost benefits as well as fulfill the energy needs without any interruption.
- **Salah A.vaisi**(December 2011),**The benefits of integrated methods in PV making to promote their efficiency and achieve low-cost modules**, he presents a general overview on a serious effort to produce PV panus that could provide cheaper solar power. It also focuses on short background of PV. The concept isespecially on new monolithic integrated modules with efficiencies of 20% and above. Module design for irradiation up to 1000 suns. Adaptation of already process concentrator's concept that promise high quality and high reliability.
- **Seth Blumsack, Kelsey Richardson**(August 2012),**Cost and Emission Implications of coupling wind and solar power**, they assessed the implications on long-run average energy production costs and emissions of CO₂ and some criteria pollutants from coupling wind, solar and natural gas generation sources. Coupling wind energy with a natural gas turbine can potentially reduce long-run overage production costs, although incrementally adding PV to the portfolio increases costs.

- **Dharmarsa** (October 2013), **Cost Effective Analysis of Solar and Wind power in oman**, The paper discussed about the cost effective generation of electricity using solar and wind power tariff. This stimulate some cost benefits studies conducted on the PV based solar power and wind power generation. The study outcome assist to append more and more energy in oman and also there is a need for minimization of capital cost of the system both solar and WT setup.

Objectives of the Study

- To analyze whether the implementation of solar energy benefiting to the households in the study area
- To examine the opinion of respondents about cost efficiency of solar energy in the study area.
- To give some suitable suggestions for the government and private solar companies for enhancing of solar energy usage in the study area.

Scope of the Study

The scope of the present study is to examine the opinion of respondents (beneficiaries) about cost efficiency of solar energy and this study mainly concentrated on house hold utilization of solar energy. The geographical area for this study is restricted to Shivamogga city only.

Hypothesis

H₀: The solar energy is not a cost efficient means of energy.

This hypothesis is tested with the help of chi-square test by using SPSS software.

$$X^2 = \sum_{i=1}^n \frac{(O_i - E_i)^2}{E_i}$$

Methodology

Primary data has been collected by distributing structured questionnaire to the respondents (beneficiaries) and also used interview method to collect information.

Secondary data has been collected through journals, books, official websites, articles, reports, newspapers and other internet sources.

Sample Design

- **Population:** The benefiter of solar energy.

- **Sample Technique:** Convenient sampling method is used for this study.

- **Sample Size:** The size of the sample is 180 respondents selected from Shivamogga city.

Tools of analysis

The collected data is analyzed and presented with the help of tables and percentage.

Analysis and Interpretation of Data

Table – 8.1: Profile of Respondents

Age Group (years)		
Below 25	22	12
25 - 40	104	58
41 - 55	43	24
Above 55	11	06
Total	180	100
Occupation		
Government Employees	47	26
Private Employees	65	36
Businessman	25	14
Any Others	43	24
Total	180	100
Annual Income (Rs)		
Below 2,50,000	72	40
2,50,001 to 5,00,000	79	44
5,00,001 to 7,00,000	25	14
Above 8,00,001	4	02
Total	180	100
Education Level		
Below PUC	47	26
Graduation	79	44
Post-graduation	47	26
Any other	7	04
Total	180	100

[Source: Field survey]

From the above table it is clear that, among 180 respondents, majority of the beneficiaries of solar energy belongs to age between 25 to 55 years and most of them installed are government employees, private employees and other occupation. Majority of the solar energy installers annual income is between Rs. 2,50,000 to Rs. 7,00,000 and the beneficiaries' educational qualification is below PUC, UG and PG.

Table – 8.2: Utilization of solar energy in the study area

Particulars	No. of Respondents	Percentage
Water heater	104	58
Lighting	43	24
Cooking	22	12
Other utilization	11	6
Total	180	100

[Source: Field survey]

(Note: Other utilization includes AC and heating, washing machine, cloth dryer, computers, TV and other house hold purposes)

Majority of the respondents are consuming solar energy for water heating and lighting purpose and less number of them are using for cooking and other household activities.

Table – 8.3: Money spent for installation of solar energy

Particulars (Rs)	No. of Respondents	Percentage
500-1000	14	8
1000-5000	65	36
5000-10000	94	52
10000-20000	07	4
Total	180	100

[Source: Field survey]

Majority of the respondents have spent Rs 1000 to Rs 10000 for installation of solar energy in the study area and also they got subsidy from government and loan from bank and other financial institutions for installation of solar energy at house.

Table – 8.4: Reasons for installation of Solar energy

Particulars	No. of Respondents	Percentage
Save electricity charges	43	24
Cost efficiency	65	36
Self-sufficiency (independent)	9	5
Environment friendly	36	20
Safety	18	10
Reduce demand for Electricity	9	5
Total	180	100

[Source: Field survey]

Majority of the respondents have installed solar energy mainly as it is cost efficiency, save electricity bill and also for environmental friendly purpose.

Table – 8.5: Solar energy is a cost effective utilization energy (respondents opinion).

Particulars	No. of Respondents	Percentage
Yes	162	90
No	18	10
Total	180	100

[Source: Field survey]

Majority of the respondents opined that usage of solar energy helps to control the cost.

Table – 8.6: Reasons for cost efficiency of solar energy

H0: The solar energy is not a cost efficient means of energy.

Opinion	Agree	Disagree	Total
Reasons			
i) Reaction in electricity charges per unit	30	10	40
ii) Subsidy from Government	60	35	95
iii) Bank loan @ less interest	15	30	45
Total	105	75	180

[Source: Field survey]

Table of chi – square analysis

Particulars	Values
Computed values	17.05
Table values at 5% level of significance	5.991
Degree of freedom	2

The above test shows that, the table value of χ^2 for degree of freedom at 5% level of significance is 5.991 the calculated value of χ^2 is 17.05. So, computed value is more than the table value therefore, the null hypothesis is rejected and alternative hypothesis is accepted i.e., the solar energy is a cost efficient means of energy. Because it helping users continuously reduce their electricity consumption and also government subsidy mainly serving, along with this banks loan for establishment of plant is partially helping beneficiaries to enjoy solar energy as cost efficient one.

Table – 8.7: Problems in using Solar energy products

Particulars	No. of Respondents	Percentage
Cost	15	15
Less reliability	1	1
Lack of information	44	44
Less efficiency	2	2
High installation cost	22	22
Lack of post service availability	16	16
Total	100	100

[Source: Field survey]

Among 180 respondents, 100 respondents are facing certain problems with solar company and their products. Major issue is lack of information for usage of solar energy, private solar companies charging high installation charges and they are not providing proper post sales service. Along with the subsidies of government the customer need to incur additional cost.

Findings

- Majority of the beneficiaries have purchased solar

product from private firms in the last 5 year itself and they are regularly using solar product in the home mainly for water heating and lighting purpose.


- Most of the educated private and government employees have installed Solar energy and their annual income is Rs 2,50,000 to Rs 7,00,000. They have awareness about it through advertisement and company agents.
- Private solar companies are charging Rs 5000 to Rs 10000 as installation cost for solar energy plant at house. However it's difficult for poor and middle class people to afford it.
- More than half a dozen of private solar companies are existed in the study area and beneficiaries are regularly using solar energy because it's an environmental friendly, self-sufficient and also reduces dependency on electricity.
- More than 50% of the beneficiaries are satisfied with solar companies products and services.
- The study revealed that solar energy is a cost efficient method because it reduces electricity charges every month, its one time investment and long term benefits and majorly government subsidy is also reducing the consumers' burden to install the plant.
- The study also revealed that, the consumers are facing certain problems in solar plants and solar company such as lack of information about various products, high installation charges and also lack of post service availability.

Suggestions

- The solar companies effectively need to market about cost efficiency of solar energy.
- The state and central government need to provide more subsidy for solar installation.
- Banks need to increase their solar plant loan amount and need to charge less interest.
- Banks has to increase number of loan installment period.
- The solar companies must concentrate on performance improvement of their products.

- The company must concentrate on brand image in the market through launching various promotional activities.
- There is a need to create awareness among population about solar energy.
- In urban areas people can install solar panels on multi-stories buildings.
- Doubling of solar parks will bring down the solar energy cost further.
- Government intervention has put rooftop solar market too on the course of cost-correction and consumer can get open access cheaper power on rooftop solar market.

Conclusion

Using solar panels to generate electricity will replace the way we use our natural resources. Solar technology will reduce the gas emissions that are the results of burning fossil fuels such as coal (the main source of electricity within the city). This will improve the quality of our Earth's atmosphere and create a stronger ozone layer in the process. Aside from its positive effect on the surrounding, harnessing solar energy using solar panels is cost-efficient and its reliability is beyond unreasonable doubt. Solar energy is renewable which means that we can depend on it for the rest of our lives. 

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BLOCKCHAIN TECHNOLOGY

— A Prismatic Analysis

Human civilisation has so far witnessed three industrial revolutions, the last being computing power enabled manufacturing systems. It is widely being perceived that the next expedition for 'Industry 4.0' has started. This epoch-making revolution is expected to bring in inclusive digital transformations encircling every single sphere of life. In the new era, digitally-driven 'destructive' technologies will 'innovatively' reengineer systems and processes of business operations for contributing towards shared developments and touching lives of have-nots also in all corners of the world.

Impacts, generated by various technologies, can be grouped into four categories, viz., transformational, high, medium and low. In foreseeable future emerging technologies under 'Industry 4.0' like Deep Learning, IET, Advanced Robotics, 3D Printing, Autonomous Cars, Brain-Computer Interface, etc. will create transformational impacts. Contrary to popular perception, the present author thinks Blockchain also will bring high transformational impacts which will ultimately enhance both commercial and social RoI.

Several tons of paper have already been inked and zillions of bytes occupied with narratives and software on Blockchain. It is predictively being viewed that this technology will create equal, if not more, impacts than



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'www technology'. This technology is evolving. A deep sense of labor-pain for delivering values is being experienced. Hundreds of scientists are struggling to 'innovate' simplified applications for generating wide-scale impacts. One of such areas is popularly known as smart cities through inter-operable distributed ledgers, that form the core of a Blockchain

Objective

Objective of this paper is to examine Blockchain technology through a prismatic analysis. It will look out for the present state of developments and predictive applications on which digital scientists are working. Through analytical research the present author will endeavor to feature out unique developments for mass-impacting applications in hitherto unheard-of areas.

Attempts will be made to ideate challenges and critical success factors for this technology so that directional guidelines can be set for data scientists to keep in view at every step of application developments. Albeit the technology is prima-facie simple, its applications will involve very many participants demanding value creation abilities, unwavering trust, total transparency and more than hackable security measures. Thus the objective is to bring out thought provoking elements needed for achieving acceptance by mass, quantum leap in number of areas for multidimensional applications transcending sovereign boundaries and impacting lives of all and sundry.

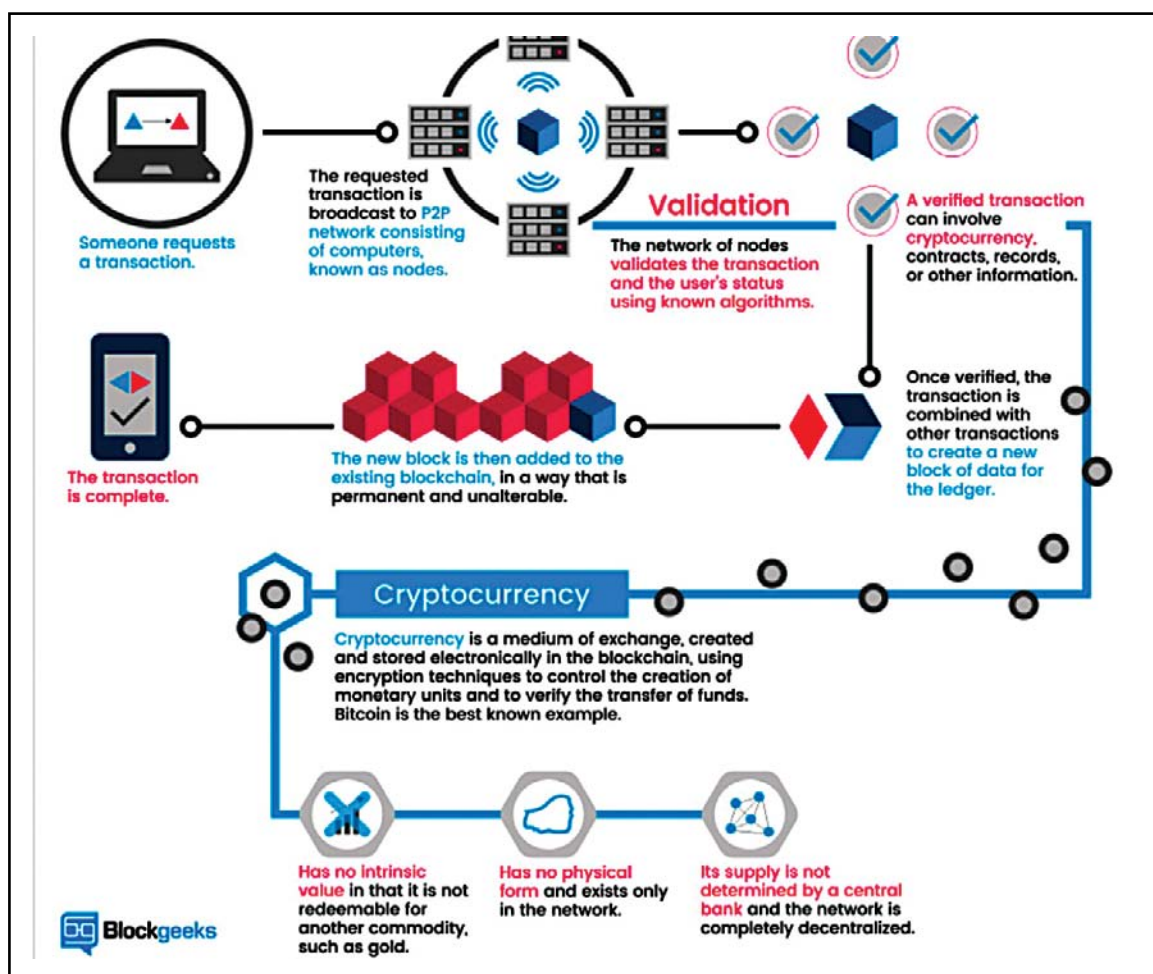
Blockchain Technology

In his seminal article Satoshi Nakamoto has described "Blockchain as a chain of digital signatures". A Blockchain is built on the foundation of participating parties, each of whom individually maintains their respective computing systems, called as a 'Node' in that chain. Each Node will hold all data as contained in the entire Blockchain. This system is technically called as Distributed Ledger (DL). Consistency of all these nodes is maintained by an elaborate system of cryptographic algorithm.

Transactions conducted by each node are posted to the DL in the form of a block that comprises cryptographed information associated with the data contained in the block. Anonymity of each online ledger is protected by simultaneous use of a private key and a public key. Each transaction conducted by a participating Node, e. g., a patient, doctor, pathological laboratory radiological test centre, hospital, medicine vendor, insurance company, bank, etc. in a Health Care Blockchain is posted into the DL. Such posted transactions can be viewed by the targeted participant(s), for initiating the next transaction by using their respective private keys.

technology for both commercial and non-commercial purposes, e. g., voting system by a political government; critically depends on binding all the participants in the chain of transactions with one thread. That thread is the 'Smart Contract' hosted in the Blockchain platform for self-initiation of executory contracts binding the related party / parties. Success in this is expected to upshot transformational quantum leaps in technology applications by ensuring speed, distributed storage, sequencing of transactions and sensors. At this stage let the author state that he does not claim to know every bit of Blockchain. A simplified version of the flow of activities can be observed in the following graphic.

Success of a Blockchain, as a mass application oriented



Source: <http://www.iamwire.com/2016/12/startups-blockchain-technology-india/146811>

According to Klaus Schwab, founder and executive chairman of the World Economic Forum, "In essence, the blockchain is a shared, programmable, cryptographically secure and therefore trusted ledger which no single user controls and which can be inspected by anyone."

The Gigantic Digital Universe and Strategic Imperatives

Deloitte University Press published a report in 2017 on technology trend and predictive analysis of digital universe. A summary of a relevant portion of the report brings out the following in terms of volume of digital data and their usability in 2013 and predictively in 2020:

Year	Total Size of the Digital Universe#	Data Usefulness if Analysed	Data from Mobile Devices and People##	Data from Embedded Systems	Remarks
2013	4.40 ZB	22%	17%	2%	Growth of data is @38.95% CAGR from 2013 to 2020
2020	44.0 ZB	37%	27%	10%	Only 37% of generated data will be useful

One ZB (Zetta Byte) is equal to one billion terabytes.## About 90% data from this source is unstructured.

Keeping in mind the above predictive developments, Leadership team of any organisation is expected to:

- Look through the windows to spot and track commercially useable technological developments and monitor the need for inhouse requirements;
- Treat and preserve digital data as the most valuable asset and ensure their safety and security;
- Reflect on markets, customers and business opportunities;
- Co-create digital analyses driven strategic plans for sustainable competitive advantages in red ocean of business area; make best use of first entering the blue ocean and stay there with the ability to grow till the product or service is commoditized;
- Draft and embed the “Smart Contract” in a manner that it can promote dynamically efficient pricing of product(s) / service(s) being offered;
- Execute for highest impact on RoI with least of profligacy and overconfidence; and
- Create an environment of IT Juris Prudence at all stages of systems developments and applications also ensuring data retrievability when needed for producing as legal evidences.

An interesting task would be to explore whether the Blockchain will be able to contribute for decision making

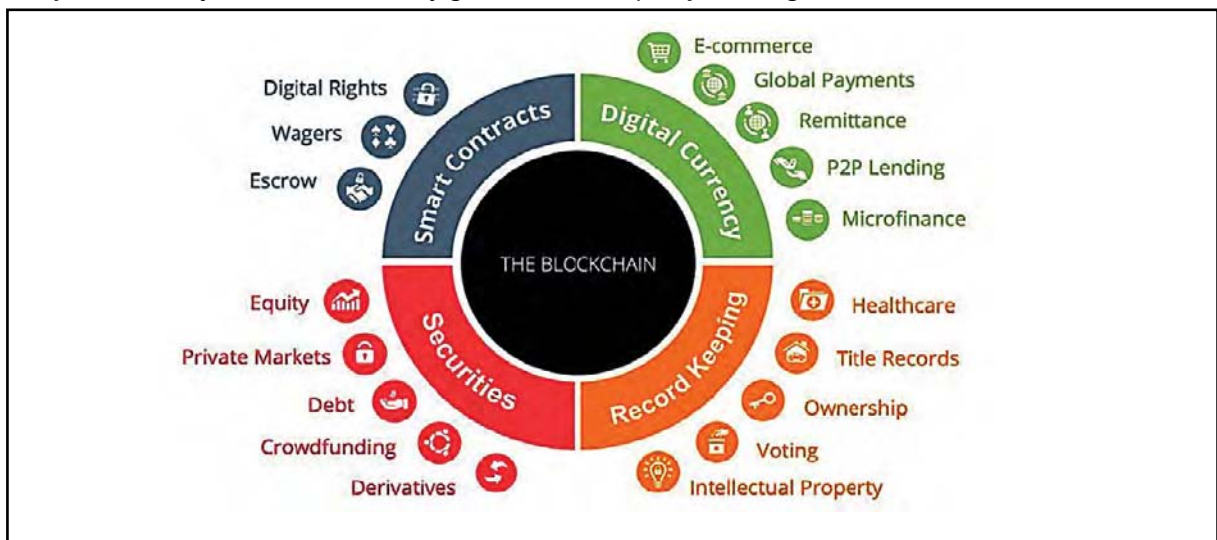
and execution if it is used as an overlay on Data Analytics, AI, Machine Learning, etc.; and / or applied simultaneously for effecting transactions through Distributed Ledgers in a Blockchain enabled platform. One of the imperatives to be kept in mind is that success of Blockchain will predominantly depend on its ability to attract mass participation like ‘www Technology’ and serve far better causes of humanity for inclusive growth of have-nots.

Blockchain – The Technology Power House

it is important at this stage to remove the commonly perceived misconception that Blockchain is synonymous to Bitcoin or Cryptocurrency and vice versa. Instead, not very far in future Blockchain technology will re-write unique process transformations that will create impacts in all walks of life. It will also encircle management of mass deliverables by a national level political and / or local self-government with huge administrative cost savings. It will also cause multi-orbital leap of speed, quality, governance, transparency, profit and profitability of commercial transactions.

The present author’s research indicates that Blockchain is being tried for more than one hundred applications, including unique ones like severally and jointly protecting the intellectual property rights of a lyricist, musician and singer of a song; rights of expressing verbal and written views on any socially / politically intriguing issue, etc.

The following graphic shows some of the illustrative applications of blockchain technology for which proof of concept has already been established by government and / or private agencies



Source: <https://briandcolwell.com/2017/06/a-giant-sized-history-of-bitcoin/.html>

For the sake of brevity detailing of various applications using Blockchain, for which proof concept has already been established, have been avoided. The reader can get plenty of published literature in cyberspace. Analytical study of some of those literature reveals that Blockchain is expected to bring in the following unique system transformations and rewrite business processes for taking a quantum leap in impactful value deliveries:

- 'Destruct', (destructive disruption) traditional business models;
- 'Bizrupt', (disrupt business process) the latest commercial operating processes;
- Service deliveries through a seamlessly and cryptographically secured chain link and keyless signature infrastructure;
- Replace traditional model of institutional banking and rendering services by players in BFSI sector;
- Rewrite the inclusive character of digital technology applications touching human beings in mass diagonally all strata of society within and across sovereign boundaries; and
- Cause significant legal and regulatory disruptions transcending sovereign boundaries;

Thus, Distributed Ledger Technology would be a useful economic overlay to what is increasingly becoming a seamless multidevice computing, including wearables, IET, etc. Blockchain layer could facilitate BigData's Predictive Task Automation and its predictive analysis could dovetail perfectly with automatic execution of smart contracts. Combination of Big Data and Blockchain will enable data analytics from proactive to reactive to predictive analysis.

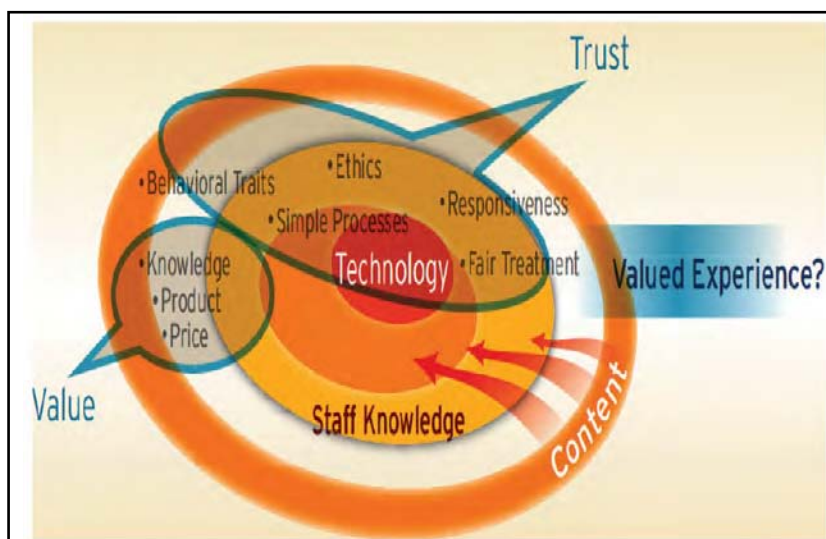
It is an imperative at this stage to remember that what one trusts may not be true and what is true may not be trusted by the same person. In order to be acceptable by all and ensure applications by mass, Blockchain, therefore, must believe in and ensure that only one single version of truth is captured in the 'Smart Contract' and that is built on the foundation of trust and transparency as more detailed below.

Blockchain – Challenges in Business Solutioning

Challenges before Blockchain technology are being analysed in two segments, viz., business solutioning and framework building. At the outset, one must remember the 7Ts and 7Ps for achieving success in development and application of any new technology in 'Industry 4.0' with the axiomatic motto that any development is not sustainable unless shared with common mass beyond the realms of rich people.

7Ts for Success in Technology Application	7Ps for Shared Development
<ul style="list-style-type: none"> ● Technology ● Talent ● Truth ● Trust ● Transparency ● Tenacity ● Timeline 	<ul style="list-style-type: none"> ● People ● Patience ● Passion ● Perseverance ● Piety ● Purity ● Penance

Using the above directional building blocks for success one can adopt the challenges in business solution through the following graphic:



Source: <https://www.cognizant.com/InsightsWhitepapers/Digital-Banking-Enhancing-Customer-Experience-Generating-Long-Term-Loyalty.pdf>

Visual analysis of the above graphic prompts us to set the following four points as the simple guidelines for application of any technology for business solutioning and the elements for ensuring the same through Blockchain:

- Transparent representation of value proposition through a transaction(s) – Embedding of the ‘Smart Contract’ with buy-ins of all participants including capability for dynamic pricing;
- Facilitating customers’ decision-making process – Hosting the ‘Smart Contract’ with one version truth and ability to see all prior transactions in the chain through use of Public Key;
- Ability to serve any customer who takes access into the platform without any minimum value limit to serve common people and MSMEs in general and not the

HNI or large customers only;

- More than hackable security of information and protection of wealth – Cryptographically enabled security system with keyless signature infrastructure for distributed ledgers in the same chain.

However, even compliance of the above guidelines may not be sufficient since following more challenges are to be met by Blockchain for universal acceptance and success with shared benefits:

- Providing business-ready solution rather than only sporadic disjointed applications;
- Interoperability between more than one Blockchains when one or more of the parties, required to complete a set of transactions, is / are not participating in the same Blockchain. For example, different bankers of the patient, hospital, pharmacy and the insurance

company respectively, participating in a health care chain, may not be in the same Blockchain for effecting receipt / payment of considerations against an executed transaction;

- Handling of legal and regulatory interventions related to banking, taxation, foreign exchange, etc. in a cross-border transaction with differences between more than one sovereign authorities. This will essentially require non-straight jacketing of solution through the 'Smart Contract';
- Sustainability through dynamic business environment where VUCA elements are changing quite frequently posing challenges in execution of the 'Smart Contract'; and
- Minimisation of value destruction across all applications ensuring that cost for saving costs is not more than cost saved.

Blockchain – Challenges in Framework Building

At this stage, the present author is thoughtful about the axiomatic statement, *"If you don't know what you don't know then you don't know how to fix it"*. Keeping this in view and considering the challenges in solution building one can think through the following more challenges in application framework building for success of Blockchain technology:

- Creating an innovation driven dynamic framework which is easy to comprehend, user friendly and simple to operate;
- Secured and safe storage of immutable and auditable data which are invaluable assets for value creation in future and retrieving those if needed as evidences for any legal proceedings;
- Dynamic business process management using cold data in distributed ledgers maintained by the Blockchain platform;
- Facilitate the process of strategic planning, day to day business decision making and execution in both short and long term;
- Omnichannel mastery in digital solutions for solving customers' problems simultaneously with facilitation of business process management. In this context, one more challenge is to make associated data from mobile devices usable;
- Interoperability of Blockchains and their collaborative integration to ensure wider participation; and
- Last but not the least ability to serve across various strata of the society irrespective of economic status.

Blockchain and Finance Professionals

Right from the traditional systems of IT enablement, ERP applications and present day high impact creating digital applications, finance professionals have always played critically important roles. The success of any digital technology driven application depends on accurately defining of business policies, rules and SOPs, conducting simulated UATs etc. Importance of these has legally been recognised through introduction of Sections 134, 143 and 177 of the Indian Companies Act, 2013 regarding IFC for FR and OFC.

In the emerging digital ecosystem, both at macro and micro levels, data is being considered as the most valuable asset. It is the finance professionals who are better equipped to analyse, introduce relevant enquiries, interpret summarised outcomes and in turn better report the same for planning, dynamic decision making and execution. Blockchain is no exception to this phenomenon.

In this discourse the present author has emphasised the need for execution of self-initiated executable transactions using the 'Smart Contract' embedded in a Blockchain platform. Here again finance professionals have a large role to play in setting commercial terms and conditions, norms for dynamic pricing principles. They must collaborate with legal professionals also for ensuring compliance and multi-faceted risk management.

Concluding Observations

Distributed Ledger Technology will succeed in attaining 'Darling of the Mass' status like 'Internet' if it is adopted and applied with the mindset of universal altruism. It should be grounded on the humane foundation of shared values. Blockchain technologists cannot afford to adopt or strive for attaining the status of a technology tribe. They must not serve only corporates and HNIs, keeping themselves away from the lower rung of society.

Ultimately Blockchain based commercial applications will succeed if it can break political boundaries like internet has broken geographical boundaries. Humanity is one and the world is its home. Hence it is an imperative that a global governing body, with members from various nations, is formed for directional guidance and monitoring matters of commercial, legal and regulatory implications when a transaction transcends sovereign boundaries. If you want the market-lion's head as the Winning Trophy, do what you have never done and solve all pervasive customers' and users' those problems none has ever identified. **MA**

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Kolkata, the 19th January, 2018

NOTIFICATION

16-CWR (23585)/2018: In pursuance of Regulation 16 of the Cost and Works Accountants Regulations, 1959, it is hereby notified that in exercise of powers conferred by sub-section (2) of Section 20 of the Cost and Works Accountants Act, 1959, the name of Shri Parveen Kumar Sharma, BCOM, ACMA, # 1024/2, Sector 45-B, CHB Flats, Chandigarh – 160 047 (Membership No. 19843) has been removed from the Register of Members, with effect from 8th January, 2018 for a period of three (3) months i.e. till 7th April, 2018, in pursuance of Order issued vide letter no. G/DD/Secy/(M-19843)/1/01/2018 dated 8th January, 2018 passed by the Disciplinary Committee under sub-section (3) of Section 21B of Cost and Works Accountants Act, 1959.

Sd/-
(Arnab Chakraborty)
Secretary (Acting)

CORPORATE DEBT RESTRUCTURING

A TOOL TO HIDE NPAs



Saurabh Maheshwari

Research Associate
National Institute of Financial Management, Haryana

‘

Banks normally adopt strategy of debt structuring to escape their loans under NPA category because reporting loans in NPA category requires provisions from the profit and Central Bank always directs to the banks to clean the balance sheet. So by doing debt restructuring, banks need not to report the loans under NPA category resulting in no provisions. If bank is facing problem in recovery of loan from the corporate and industry then bank tries to go for debt restructuring rather than reporting of the loan under the NPA category

’



Dr.A.M. Sherry

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National Institute of Financial Management, Haryana



Dr. Pramod Kumar Pandey

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Banking system remains focal point in the financial set up of any developing country. Banking business is mainly deals with borrowing from the public and lending to the needy persons and business. Lending involves Credit Risk which is the oldest form of risk in the Financial System and has been traditionally managed through underwriting standards, diversification, and sale of assets. When the loan and advances made by the bank or financial institution turns out to be Non Productive and Non Rewarding they take the form of Non Performing Assets (NPAs). According to the several research studies held, NPAs are cyclic in nature and always increase during the downturn of economic cycles. NPAs immediately results in negative cash flow from the asset and further future cash flow benefits from the asset are completely lost. Because of poor Credit Risk Management, past few years have witnessed failure of many major Banks and Financial Institutions in USA, Europe and Asia like Financial Crisis in Greece and Sub-prime Crisis in United States, where securities linked to assets it turns into Non Performing Loans.

Indian Banking System is at the core of Indian economy which fulfils the basic needs of the Priority Sector as well as Non – priority Sector by providing Credit/Loan facility. Non Performing Assets (NPAs) are one of the major concerns for banks in India. The Operational, Financial, Social, Political and Economic discrepancy existed in the system creates difficulties to pay back the loan amount sanctioned up to some extent, which later becomes Non Performing Assets for the Banks and Financial Institutions. Banks credit may be classified into two types of sectors namely Priority Sector and Non Priority Sector. Priority sectors include the Agriculture & Allied Activities, Micro and Small Enterprises, Micro Credit, Education, Housing, Weaker Sections, State Sponsored Organizations for SC/ST, and Export Credit whereas Non Priority sectors include the Industry, Services and Personal Loans. Even though NPAs are having from both the sectors, the proportion is more from Non Priority Sector.

Concept of Non – Performing Assets in its present form came into existence with the recommendations of Narsimham Committee implemented by Reserve Bank of India (RBI) in 1992. Level of NPAs as per these guidelines was first reflected in Indian banks' balance sheet of 1992 – 1993.

Various numbers of research studies have been conducted on different issues concerning NPAs. Raj Yadav (2014)¹ focused that major components of credit risk are: the risk that a counter party will default and the risk associated with the recovery rate after default. Since Non Performing Loans (NPL) is one of the major indicators of credit risk resultantly high percentage of NPLs reflects high credit risk. In India, Credit risk is managed through credit default swap, credit linked notes, organizational restructuring, reducing dependence on interest, curative management including debt recovery tribunals, Lok-Adalats, SARF AESI Law 2002, credit information bureau, corporate and asset reconstruction companies while Asha Singh (2013)² elaborated that Credit Risk is a combined outcome of Default Risk and Exposure Risk. Credit Risk Management Policy



Today the Indian Banking System is at the distress. Growth of Non-Performing Assets (NPA) in the non-priority sector has outstripped that in the priority sectors, with the industrial sector showing the highest incidence of stress. Within the industrial sector, borrowers in infrastructure (especially power), iron & steel and textile industries have been most affected as a result of stalled projects, delayed policy decisions, economic slowdown, several macro factors related to supply and demand and mismanagement. Major contribution in NPAs is largely from Public Sector Banks in India and the ability of public sector banks to manage the quality of their asset portfolio has remained weak on several accounts – a) Poor credit appraisal prior to sanctioning, b) Ignorance of early indicators of deterioration in asset quality, c) Lack of granular data on slippages, d) Absence of detailed evaluation of restructuring. This paper is conceptual in nature and deals with two aspects; first, Trend Analysis and Critical evaluation of Annual Movement of Gross Non Performing Assets in Indian Banking System. Second, to study the relationship between Gross NPAs, Corporate Debt Restructuring of Schedule Commercial Banks. Study reveals that cumulative growth of Corporate Debt Restructuring is higher than cumulative growth of Gross NPAs of Schedule Commercial Banks for the period of 7 years i.e. from 2009-10 to 2015-16 which shows schedule commercial banks dependent on Corporate Debt Restructuring (CDRs) as channel to hide NPA distress.



of the bank dictates the Credit Risk Strategy. These policies spell out the target markets, risk acceptance/avoidance levels, risk tolerance limits, prefer levels of diversification and concentration, credit risk measurement, monitoring and controlling mechanisms. Thirupathi Kanchu and M. Manoj Kumar (2013)³ concluded that, the management of Credit Risk includes; (a) Measurement through Credit Rating/scoring, (b) Quantification through estimate of

expected loan losses, (c) Pricing on Scientific basis, and (d) Controlling through effective Loan Review Mechanism and Portfolio Management. They suggested the instruments and tools, through which credit risk management is carried out, a) Exposure Ceilings, b) Review/Renewal, c) Risk Rating Model, e) Portfolio, and f) Loan Review Mechanism. Meena Sharma (2005)⁴ examined and find the NPAs affect a negative impact on the profitability, productivity, achievement of capital adequacy level, funds deployment and mobilization policy, credibility of the banking system and overall economy and suggested the government should not use PSBs as a vehicle to achieve its political objectives by lending unviable projects, announcing loan meals and loan waiver schemes, etc.

Ramakrishna Reddy. D and T.SreeBhargavi (2004)⁵ identified the impact of NPAs on different financial parameters viz., ROA, ROE, CAR, banks profitability etc. and identified the NPAs are not just a problem for the banks, and they are bad for the economy also. They have given some guidelines for the effective management of NPAs like early warning for incipient sickness; close monitoring, rehabilitation, of deserving units, etc. while Raul R.K (2004)⁶ attempted to study the nature and consequential affect of the NPAs on the banking sector and concluded that an appropriate set of substantial financial sector regulation clarity including changes in tax laws is imperative for the banking system to get rid of NPAs as well as for QIBs to look forward to the investment opportunities

Objectives & Methodology

1. Trend Analysis of Gross Non Performing Assets of Schedule Commercial Banks in Indian Banking System.
2. To study the relationship between Gross NPAs, Corporate Debt Restructuring of Schedule Commercial Banks

Data Type and Source The relevant data have been collected from secondary sources comprising of published reports on Trend and Progress of Banking in India by Reserve Bank of India, Financial Stability Report published by Reserve Bank of India, Corporate Debt Restructuring Cell, various Journals and magazines and information browsed from the related websites.

Sample Size and Profile This study is focussed on Schedule Commercial Banks (SCBs) comprising State Bank of India and its Associates, Nationalised Banks, Private Sector Banks, and Foreign Banks.

Summary of Sample Size & Profile

Banks	No. Of Banks
State Bank of India and its Associates	6
Nationalised Banks	21
Private Sector Banks	21
Foreign Banks	45
Total Schedule Commercial Banks	93

All these Ninety Three Schedule Commercial Banks in India account for approximately ninety five percent of the banking business in India. Time series data from 2000 to 2016 is used for Trend Analysis and Critical evaluation of Annual Movement of Gross Non Performing Assets in Indian Banking System. The year of 2000 - 2001 is taken as starter year because; from this year movement of NPA had been seen effectively in the economy.

Method of Analysis The collected data on Gross NPAs of the selected ninety three Schedule Commercial Banks, is classified, tabulated and analysed in a systematic manner. For data analysis various statistical tools are employed namely trend analysis, percentages etc.

Data Analysis and Findings

Table 1. Cumulative Growth Rate of Gross NPAs and Corporate Debt Restructures of SBI and its Associates

Year	SBI and its Associates Gross NPAs	SBI and its Associates Corporate Debt Restructured
2009-10	14.22%	327.86%
2010-11	47.23%	181.77%
2011-12	139.07%	456.77%
2012-13	228.20%	2167.01%
2013-14	317.60%	3675.17%
2014-15	284.60%	4407.03%
2015-16	538.10%	3666.75%

Note: Above Table 1 elaborates the Cumulative Growth of Gross NPAs and Corporate Debt Restructures of SBI and its Associates for 7 years i.e. from 2009-10 to 2015-16 (base year 2008-09)

Table 2. Cumulative Growth Rate of Gross NPAs and Corporate Debt Restructures of Nationalized Banks

Year	Nationalised Banks Gross NPA	Nationalised Banks Corporate Debt Restructured
2009-10	32.25%	246.77%
2010-11	60.08%	144.58%
2011-12	149.21%	621.81%
2012-13	279.37%	1829.10%
2013-14	450.11%	2837.14%
2014-15	664.69%	3751.70%
2015-16	1459.48%	3208.49%

Note: Above Table 2 elaborates the Cumulative Growth of Gross NPAs and Corporate Debt Restructures of Nationalized Banks for 7 years i.e. from 2009-10 to 2015-16 (base year 2008-09)

Table 3. Cumulative Growth Rate of Gross NPAs and Corporate Debt Restructures of Private Sector Banks

Year	Private Sector Banks Gross NPAs	Private Banks Corporate Debt Restructured
2009-10	3.09%	480.88%
2010-11	6.65%	65.34%
2011-12	8.48%	1029.48%
2012-13	21.41%	1951.59%
2013-14	44.06%	3639.64%
2014-15	100.69%	4970.52%
2015-16	232.72%	4460.96%

Note: Above Table 3 elaborates the Cumulative Growth of Gross NPAs and Corporate Debt Restructures of Private Banks for 7 years i.e. from 2009-10 to 2015-16 (base year 2008-09)

Table 4. Cumulative Growth Rate of Gross NPAs and Corporate Debt Restructures of Foreign Banks

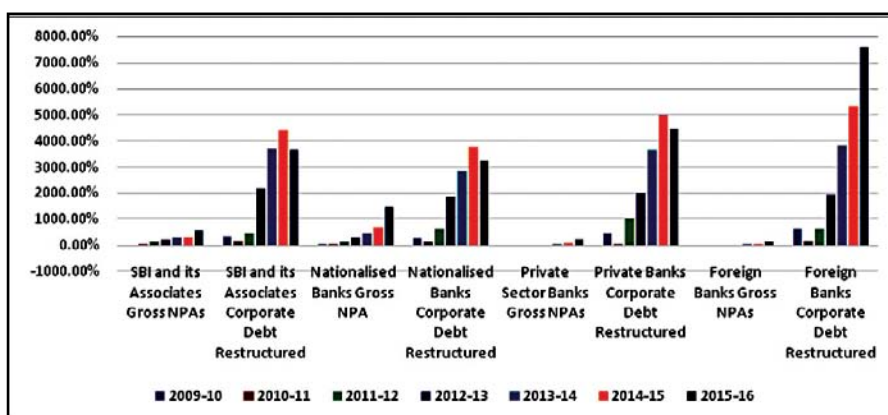
Year	Foreign Banks Gross NPAs	Foreign Banks Corporate Debt Restructured
2009-10	-1.90%	650.00%
2010-11	-30.41%	177.78%
2011-12	-13.52%	638.89%
2012-13	9.34%	1944.44%
2013-14	59.59%	3794.44%

Year	Foreign Banks Gross NPAs	Foreign Banks Corporate Debt Restructured
2014-15	48.41%	5322.22%
2015-16	117.95%	7577.78%

Note: Above Table 4 elaborates the Cumulative Growth of Gross NPAs and Corporate Debt Restructures of Private Banks for 7 years i.e. from 2009-10 to 2015-16 (base year 2008-09)

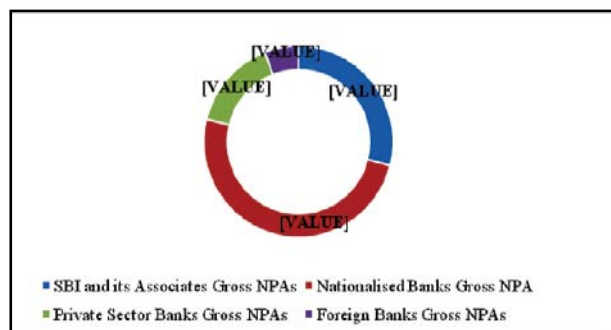
Source: Author Calculation on the basis of STRBI Table No. 20 – Loan Subjected to Restructuring and Corporate Debt Restructured and STRBI Table No. 07 – Movement of Non Performing Assets (NPAs) of Schedule Commercial Banks from RBI Database on Indian Economy

Figure 1. Bank-Wise Cumulative Growth of Gross NPAs and Corporate Debt Restructured from 2009-10 to 2015-16



Note: Figure 1 shows the trend of Cumulative Growth of Gross NPAs and Corporate Debt Restructured of SBI and its Associates, Nationalized Banks, Private Sector Banks and Foreign Banks from 2009-10 to 2015-16

Figure 2. Bank-Wise Average Contribution in Gross NPAs of Schedule Commercial Banks



Note: Figure 2 shows the Average Contribution in Gross

NPAs of Schedule Commercial Banks on the basis of 7 years i.e. from 2009-10 to 2015-16 by SBI and its Associates, Nationalised Banks, Private Sector Banks and Foreign Banks Gross

Source: Author Calculation and STRBI Table No. 07 – Movement of Non Performing Assets (NPAs) of Schedule Commercial Banks from RBI Database on Indian Economy

Analysis and Findings: - There are following analysis and observations from above table 1, table 2, table 3, table 4, figure 1 and figure 2:

- We can find (table 1), cumulative growth in Gross NPAs of Nationalised Banks is the highest in all years (2009-

10 to 2015-16) as compared to cumulative growth in Gross NPAs of State Bank of India and its Associates, Private Sector Banks and Foreign Banks (table 2, table 3, table 4).

- It may be observed (figure 2), Average Contribution in Gross NPAs of Schedule Commercial Banks on the basis of 7 years is the highest (49.77%) from Nationalised Banks while (5.84%) is the lowest from Foreign Banks.
- It is clear (table 1, table 2, table 3, table 4), cumulative growth in Corporate Debt Restructured is greater in all years (2009-10 to 2015-16) as compared to cumulative growth in Gross NPAs for the same period for SBI and its Associates, Nationalized Banks, Private Banks and Foreign Banks.
- We can find (table 4) cumulative growth in Gross NPAs of Foreign Banks is lowest as compared to cumulative growth in Gross NPAs of other category of banks but the cumulative growth in Corporate Debt Restructured is the highest as compared to other category of banks for 7 years i.e. from 2009-10 to 2015-16.

Trend Analysis of Gross NPAs of Schedule Commercial Banks

Table 5: Gross NPA of Schedule Commercial Banks in India From 2000-01 to 2015-16

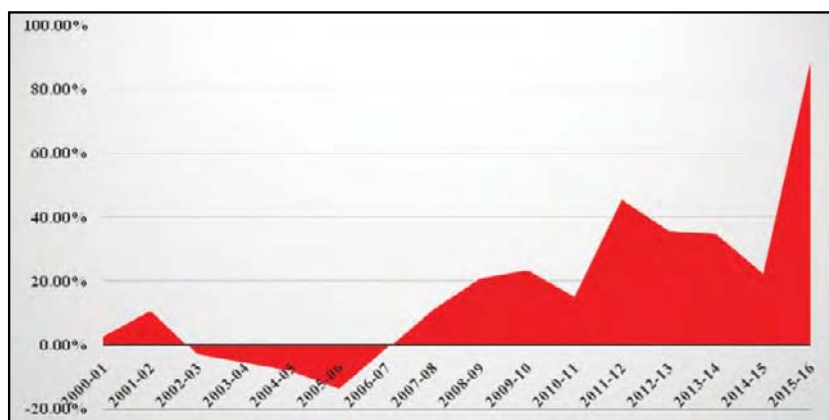
Year (2000-01 to 2014-2015)	Gross NPA* (In Billion)	Annual Movement (% Change as compared to Previous Year)
2000-01	637.41	3.09%

Year (2000-01 to 2014-2015)	Gross NPA* (In Billion)	Annual Movement (% Change as compared to Previous Year)
2001-02	708.61	11.17%
2002-03	687.17	-3.03%
2003-04	648.12	-5.68%
2004-05	593.73	-8.39%
2005-06	510.97	-13.94%
2006-07	504.87	-1.19%
2007-08	563.08	11.53%
2008-09	683.27	21.35%
2009-10	846.98	23.96%
2010-11	978.23	15.50%
2011-12	1429.04	46.08%
2012-13	1940.53	36.23%
2013-14	2633.72	35.29%
2014-15	3233.45	22.77%
2015-16	6116.07	89.14%

Note: Above Table 5 states the Gross NPAs (In Billion) and Annual Movement (% Change as compared to Previous Year) of Schedule Commercial Banks for 16 years (from 2000-01 to 2015-16)

Source: - <https://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics>Financial Sector>Banking -Performance Indicators>Yearly>Bank Group-Wise Classification of Loan Assets of Scheduled Commercial Banks>

Figure 3. Trend of Gross NPA of Schedule Commercial Banks (% Change as compared to Previous Year) From 2000-01 to 2015-16



Note: Figure 3 shows Trend of Annual Movement (% Change as compared to Previous Year) of Gross NPA of Schedule Commercial Banks (% Change as compared to Previous Year) From 2000-01 to 2015-16

Analysis and Findings: - We can find (table 5 and figure 3), there were sharp decline in NPAs from 708.61 billion in 2001-02 to 504.86 billion in 2006-07 thus around 28.75% decline in this period. After that it took turn around and jumped on upside. NPA which was 563.09 billion in 2007-08 jumped to 1429.04 billion in 2011-12 thus around 158.58% increase in this period. Further it jumped more on upside to 6116.07 billion thus around 328% increases in 2015-16 as compared to this 2011-12. So, the CAGR of last 10 years for growth in NPAs is 25.37% and it is clear that NPAs of Schedule Commercial Banks have increased consistently.

Gross NPAs and Corporate Debt Restructured

Table 6. Gross NPAs and Corporate Debt Restructured of Schedule Commercial Banks from 2009-10 to 2015-16

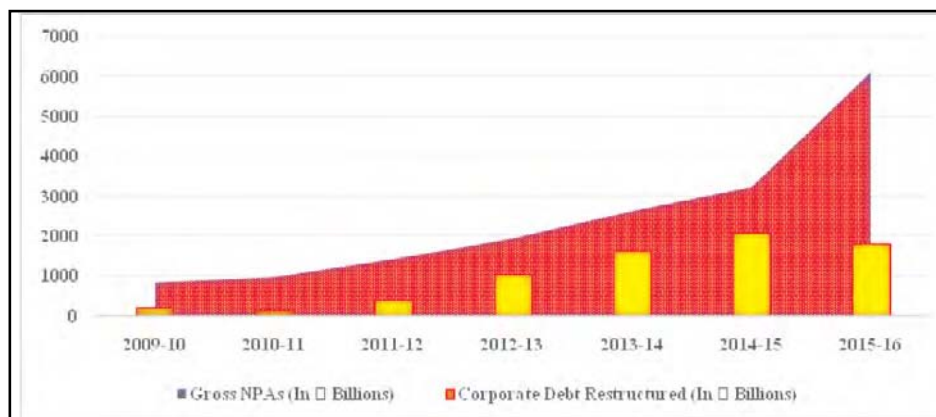
Year	*Gross NPAs (In Billions)	**Corporate Debt Restructured (In Billions)
2009-10	846.98	196.03
2010-11	978.23	123.33
2011-12	1429.04	362.77
2012-13	1946.74	1010.80
2013-14	2633.72	1606.61
2014-15	3233.45	2067.30
2015-16	6116.07	1779.49

Note: Above table 6 elaborate the Gross NPAs and Corporate Debt Restructured of Schedule Commercial Banks from 2009-10 to 2015-16

Source: - *Table5

**<https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications#!4>Statistical Tables Relating to Banks in India>Loans Subjected to Restructuring and Corporate Debt Restructured>

Figure 4. Trend of Gross NPAs and Corporate Debt Restructured



Note: Figure 4 shows the elaborate the trend of Gross NPAs and Corporate Debt Restructured of Schedule Commercial Banks from 2009-10 to 2015-16

Regression and Correlation Analysis between Gross NPAs and Corporate Debt Restructured

Table 7. Regression and Correlation Analysis between Gross NPAs and Corporate Debt Restructured

Statistics	
Correlation	0.790185381
Multiple R	0.790185381
R Square	0.624392937
Adjusted R Square	0.549271524
Standard Error	543.5379897
Observations	7

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	2455579.749	2455579.749	8.311783751	0.034466496
Residual	5	1477167.731	295433.5463		
Total	6	3932747.481			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	163.25	361.52	0.4515	0.6704	-766.0	1092.5	-766.0	1092.58
Gross NPAs (In Billions)	0.3493	0.1211	2.8830	0.0344	0.0378	0.6608	0.037	0.66086

Note: Above Table 7 elaborates the Regression and Correlation Analysis between Gross NPAs and Corporate Debt Restructured

Table 8. Cumulative Growth in Gross NPAs and Corporate Debt Structured since 2009-10

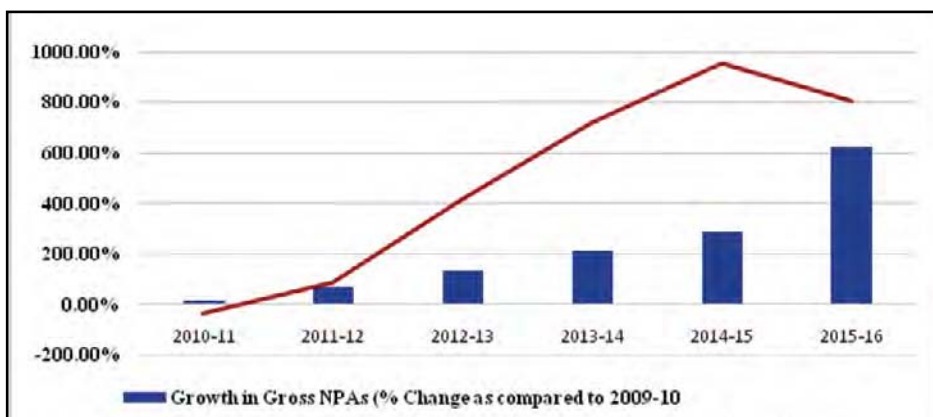
Year	Gross NPAs	Corporate Debt Restructured
2010-11	15.50%	-37.09%
2011-12	68.72%	85.06%
2012-13	129.84%	415.64%
2013-14	210.95%	719.57%
2014-15	281.76%	954.58%
2015-16	622.10%	807.76%

Author calculation on the basis of Table

Note: Above table 6 shows Cumulative Growth in Gross NPAs and Corporate Debt Structured Schedule Commercial Banks from 2009-10 to 2015-16 (base year 2009-10)

Figure 5. Trend of Cumulative Growth in Gross NPAs and Corporate Debt Restructured since 2009-10

Note: Figure 5 shows Trend of Cumulative Growth in Gross NPAs and Corporate Debt Restructured of Schedule Commercial Banks from 2010-11 to 2015-16



Analysis and Findings: - Banks normally adopt strategy of debt structuring to escape their loans under NPA

category because reporting loans in NPA category requires provisions from the profit and Central Bank always directs to the banks to clean the balance sheet. So by doing debt restructuring, banks need not to report the loans under NPA category resulting in no provisions. Above figure 5 clearly states that Corporate Debt Restructuring increased on the similar lines with the Gross NPAs from 2010-11 to 2014-15 but it decreased drastically in 2015-16 as compared to 2014-15 and Gross NPAs increased drastically for the same period. Regression Analysis states that P Value is 0.0344 or 3.4%, which is below 5% so that Gross NPAs is the significant variable to explain Corporate Debt Restructured. The coefficient of Gross NPAs is positive means, Gross NPAs significantly affect Corporate Debt Restructured in positive direction. The R Square is 0.6243 or 62.34% means, 62.34% variation or fluctuation in Corporate Debt Restructured can be explained by Gross NPAs which clearly states the Gross NPAs can influence 62.34% variation in Corporate Debt Restructured and rest 37.66% fluctuation in Corporate Debt Restructured can be explained by other variables which are not taken into this model. Here, Null Hypothesis is that Gross NPAs cannot influence the Corporate Debt Restructured but Significance F is 0.0344 or 3.44% which is below 5% so that null hypothesis is rejected and accept that Gross NPAs can influence the Corporate Debt Restructured. It is also observed that there is 79% positive correlation between Gross NPAs and Corporate Debt Restructured.

It has been observed from the Table 8, cumulative growth in Corporate Debt Restructured is higher than cumulative growth in Gross NPAs as compared to 2009-10 in every

year except 2010-11 where Growth in Corporate Debt Restructured was negative and Growth in Gross NPAs was positive as compared to 2009-10.

Conclusion

After critical evaluation of Annual Movement of Gross Non Performing Assets in Indian Banking System, we find that Gross NPAs increased with the CAGR of 17.95% on last 10 years basis, which shows that NPAs of Schedule Commercial Banks increased consistently and simultaneously it damaged the health of Bank System. Both major reasons, risk associated with the counter party default and recovery rate after default were responsible for this.

Corporates and Industries are the major clients for Bank and bank lends huge amount of loan to them for their different needs like, new project, existing project, set up the new start-up, establishment of new plant, expansion of business etc. From 2011-12 to 2015-16 cumulative growth in Corporate Debt Restructured since 2009-10 was higher than the cumulative growth in Gross NPA for the same period. Corporate Debt Restructured increased with the CAGR of 37.04% on last 7 years basis. It was clear indication that banks were in high pressure to recover the loans from the Corporates and Industry and they were facing difficulties in recovery part, so the banks referred the Corporate Debt Restructuring Cell for restructuring of the loans and avoid making provisions. If the loans are not come under Corporate Debt Restructuring then amount of Gross NPAs would be too bigger and it would be great pain for the banks. It is clear that if bank is facing problem

in recovery of loan from the corporate and industry then bank tries to go for debt restructuring rather than reporting of the loan under the NPA category. **MA**

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Footnote

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UTILITY OF COST RECORDS & COST AUDIT TO VARIOUS STAKEHOLDERS



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It is an audit of efficiency, minute details of expenditure while the work is in progress and not a post-mortem. Cost Audit is mainly a preventive measure, a guide for management policy and decision, in addition to being barometer of performance.

It was introduced to assess the productivity of some important industries which had direct bearing on the supply management system for the growth of Indian economy and as a service to the society. It mandated to maintain information on input cost of products, machine

utilisation, unit selling prices and profitability of individual products.

Objectives of cost audit include the determination and control of cost together with providing data for making judgements and decisions on various matters, such as operational efficiency.

Importance of Cost Records & Cost Audit:

- Enhances operational efficiency of industry.
 - Improves productivity and profitability of industry
 - Highlights wastages, losses and inefficiencies
 - Reduces raw materials consumption/ obsolescence / wastage.
 - Ensures efficient management of resources
 - Identifies idleness in capacity utilization.
 - Provides clue to industry to divert resources into productive and remunerative channels.
 - Detects standards of efficiency of management
 - Helps compare actual and expected results
 - Enhances trust of investors, financial analysts, banks, insurance companies and government.
 - Helps to plan, operate and control stocks.
 - Helps to evaluate production processes and performance of respective units.
 - Helps in proper pricing of goods thus enhancing the trust of customers.
 - Provides a base for systems audit, operational audit and energy audit etc. by the management.
 - Detects errors, frauds and misappropriations
 - Increases competitiveness in the local and international market.
 - It ensures that every rupee invested gives the maximum return.
- It Provides cost information required for transfer pricing, inter unit transfers and transfers amongst the related parties.
 - These are being used by the competent authority for decision-making of Free Trade Agreements, bilateral trade & Anti-dumping.
 - It is only source which provide Quantitative details thoroughly.
 - It plays the role of whistle blower in the corporate governance.
 - It provides Segment / Process / Product / Unit wise performance.
 - Helps in Make or Buy decisions.
 - Performance appraisal & Variance Analysis such as:
 - a. Key-Costs & Contribution Analysis
 - b. Profitability Analysis
 - c. Working Capital & Inventory Management Analysis
 - d. Productivity/Efficiency Analysis
 - e. Utilities Efficiency Analysis
 - f. Market & Customer Profitability Analysis
 - g. Capacity Utilisation Analysis
 - h. Manpower Analysis

Industry analysis:

- Major critical factors for monitoring are Input / Output ratio, Power consumption ratio, Manpower ratio& Contribution ratio. Cost Records provide this vital information to industries.

● Petroleum Industry:

- i. It helps PNGRB to fix transmission tariff on the bases of capex and opex data provided by Cost Records.
- ii. In E&P activity it helps in identifying exploration & development cost and valuation of proven reserves of crude oil & natural gas.
- iii. In joint ventures cost records are basis for sharing expenses & revenue between partners.
- iv. It helps in calculation of royalty& profit petroleum payable to government.

v. In refineries it helps in monitoring input / output ratio and eliminating avoidable losses.

vi. In City Gas Distribution network critical cost are transmission cost, gas compressing cost & Operation & Maintenance cost. It identifies contribution made by CNG & PNG segment. Helps in Price Fixation.

● Cement Industry:

i. Power & Fuel cost are around 50% of Clinker production cost. There for proper monitoring of cost records is critical for survival.

ii. Cost Records are used by various government authorities like tariff commission, competition commission etc.

● Soda ash Industry:

i. Power & Steam cost are critical factor.

ii. Cost Control due to Cost Records:

- During our Cost Audit we observed in one case that low-pressure steam derived from turbine & process was let off as waste, as per Cost Records we calculated its value and found to be in crores rupees which was highlighted to the management after which they started reusing it in boiler instead of DM water for generation of high-pressure steam.

iii. Cost Records are used for anti-dumping in order to prevent dumping from China & Other countries.

● Textile Industry:

i. Cost Records are maintained process wise in fibre, spinning, weaving & processing segments.

ii. Raw material, Utilities & Waste management are critical factors. It is around 70% of Cost of Production.

iii. Input / Output ratio & Capacity utilisation analysis are useful for operational efficiency.

● Coal Industry:

i. Employees cost is critical factor.

ii. There are two types of mines i.e. Underground & Open cast

iii. We have observed that nearly 70% of the cost of

production in Underground Mines are employee cost. Cost Records suggest that efforts should be taken to reduce employee cost by introducing mechanized technology, so as to increase production and reduce effect of employee cost. This will lead to increase in profitability

Benefits to Stakeholders:

- Proper Cost Records helps in improving bottom line & eliminating non-performing assets.
- Improved profitability benefits all stakeholders like financial institutions, banks, government & shareholders.
- Cost Audit enables units to remain healthy & competitive which is beneficial to society as whole.
- Proper Cost Audit ensures compliance of all rules and leads to elimination of tax evasion.
- Incremental returns to shareholders.
- Govt. can use these data for Analysis, Policy Framing & Decision Making for specific segments.

Benefits to Consumers:

Better Cost management and cost compliance leads to consumer getting quality products & services at reasonable price. It leads to transparency.

Suggestions:

Looking to overwhelming importance of cost records it is here by suggested that following certified data by practicing cost accountant should be published along with the quarterly results by the listed companies.

- Segment wise capacity utilisation, Input / Output ratio, utilities consumption ratio & Manpower analysis.
- Major product wise contribution.
- Inventory valuation of WIP & Finished product.
- Value addition statement. **MA**

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COST AUDIT:

THE GREAT INDIAN EXPERIMENT

EXTERNAL EVALUATION

A project on “Development of Cost and Management Accounting in India: The Role of Institute of Cost Accountants of India (1944 - 2017)” was undertaken in November, 2016 under the Directorate of Research and Publications, ICAI, Kolkata. During the progress of work four articles were published in various issues of The Management Accountant inviting suggestions from the members and others. They were:

- Cost Accounting Standard Setting in India and the Standards issued by the ICAI, February, 2017, pp.85- 94 (<http://icmai.in/upload/Institute/Journal/Feb-2017.pdf>).
- The Role of the Institute of Cost Accountants of India in Promoting Research & Publications, March 2017, pp. 85- 94 (<http://icmai.in/upload/Institute/Journal/March-2017.pdf>)
- Cost Audit: The Great Indian Experiment – Justification for Introduction and Continuation, April, 2017, pp.52-



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Former Professor of Commerce and Dean of Commerce & Management, University of Calcutta

59 (<http://icmai.in/upload/Institute/Journal/April-2017.pdf>)

- The Role of the Institute of Cost Accountants of India in Developing Cost and Management Accounting Profession in India, June, 2017, pp. 68-73 (<http://icmai.in/upload/Institute/Journal/MAJune2017issue.pdf>)

Subsequently, a booklet on the subject was also published by the concerned Directorate for limited circulation among the members. On the basis of feedback from a few senior members and Council members, two sets of questionnaires were prepared – one for the corporate organisations to ascertain the impact of various activities of the Institute on the economy, and the other, for cost auditors to determine effectiveness of cost audit in India. The responses to these questionnaires are being received by the Directorate for processing at our end.

Then came an opportunity to the author to make a presentation in two learned forums – one in the School of Accountancy, DePaul University, Chicago, USA, before the accounting faculty on October 13, 2017 and the other in India in the Valedictory Session of the 40th Annual Conference of the Indian Accounting Association, Udaipur, Rajasthan, on November 19, 2017.

The reason for preference for the instant topic is not difficult to comprehend. In the USA, there is no provision for cost audit although one of the Treasury Department's order said that the state auditor would annually make a cost-audit of the books and records of the county road engineer and make a written report thereon to the county

legislative authority. Similarly, in another order of 20th December 2000, it was mentioned that any company in the aerospace, telecommunications, electronics or engineering fields (or any other field provided for in the contract), which is classed as a mandatory supplier under a government contract, can be liable to a post factum cost price review. There is no provision for routine cost audit in other industrialised countries like Germany, France, the U.K. and Japan. In that background, the provision for compulsory cost audit in the emerging economy of India appeared to be of high academic and professional interest. Professor B. E. Neddles, Jr., also mentioned some of the other reasons for selecting the topic on behalf of the accounting faculty members. The Indian Accounting Association is a body of accounting teachers and professionals. Naturally, the topic on accounting and/or audit was given priority by the Conference Secretary, Professor G. Soral. Although there was strange co-incidence between the two, the selection of Cost Audit topic was a matter of academic and professional priority. Nevertheless, there is lot of difference between the two forums. In DePaul, the presentation, which was scheduled for 40 minutes including questions and answers, went up to 60 minutes in view of the interest shown by the faculty members. The presentation at the conference in Udaipur, that too during the Valedictory Session, was bound by time and others constraints. The author expresses his gratefulness to the organisers.

Evaluation

After presentation, the author informally sought opinion from Professor Needles, Jr. and Professor Soral and a few others so as to ascertain to what extent the present project was imperative to examine the role of the ICAI in developing cost and management accounting profession in India and justification of cost audit in Indian economy. Apart from Professor Soral, CMA Dr. P. Srikanth of Osmania University also responded positively to share his opinion. They are given separately below.

1. Notes prepared by Dr. Belverd E. Needles, Jr., CPA, CMA, CGMA, EY Distinguished Professor of Accounting, Driehaus College of Business, School of Accountancy and MIS, DePaul University, Chicago.



Dr. Bhabatosh Banerjee, editor of the Indian Accounting Review and formerly of the University of Calcutta, visited DePaul

University's Driehaus College of Business and the School of Accounting and MIS on October 13, 2017. He presented his paper "Cost Audit: The Great Indian Experiment" to the research faculty of the School. This paper generated extremely high interest among the faculty as it provided a comprehensive history of Corporate Laws and Audit in India from The Companies Act of 1882 until the present.

The issues covered with regard to cost audit were as follows:

- Justification for inclusion in 1965 of cost audit etc. provision in the Companies Act, 1956
- The Role of the Institute of Cost Accountants of India (ICAI)
- Justification for continuation of cost audit etc. after liberalization of economy in 1991.
- Comparison of the two provisions (incorporated in 1965 & 2013)
- Effectiveness of Cost Audit and profile of members.

The presentation was of interest to the faculty of the School because of the strong focus of our programs on financial reporting, auditing, and management accounting. Further, as a faculty there is strong interest in international accounting and countries, like India, where many of the School's students come from.



As a senior member of ICAI and as Advisory Board member of the International Association of Accounting Education and Research (IAAER), Dr. Banerjee is very knowledgeable about these developments. He emphasized the continuous improvement of cost audit through the years, especially

during the WW II years in the early 1940's and the later the formation of the Institute of Cost Accountants of India (ICAI). This organization was especially important because of its links to world accounting organizations, such as, the International Federation of Accountants (IFAC), Confederation of Asian-Pacific Accountants (CAPA), and South Asian Federation of Accountants (SAFA), to mention a few. Further, there were direct memberships in professional accounting groups in the USA, Australia, and the U.K.

Many developments occurred in an amendment of the Companies Act in 1965. At this time, Government of India brought in many changes based on recommendations of committees/commissions set up by the Government from time to time. They were found inadequate in the existing system of financial accounting and audit, and corporate disclosures. In particular, the Vivian Bose Commission investigated into several industrial malpractices and recommended for drastic changes.

Since 1965, the framework put into practice has inculcated a sense of cost consciousness in a large number of industries/companies. This mechanism, to a very large extent, has helped them to face the fierce competitive forces arising out of post-1991 liberalization and globalization. It served well the legal and non-legal requirements.

Dr. Banerjee emphasized that cost accounting became an integral part of the management process by serving as an important tool to the management to face the growing pressures of global competition, technological innovations, volatility in exchange rate and input prices and change in business processes. To ensure that the organization remains competitive both for sustenance and growth, cost management has moved from a traditional role of product costing to a broader strategic focus. So, the efficient operation of Cost and Management Accounting in an enterprise assumed greater significance during post-liberalization period.

By 2013, through further legislation, Dr. Banerjee emphasized that maintenance of Cost Accounting records and audit of such records were considered imperative by several Committees during these periods and ultimately the provision for maintenance of Cost Records (Section 128) and that for Cost Audit (Section 148) were incorporated in the Companies Act, 2013. Further, the various demands of industry with regard to simplification of rules,

procedures, structure, and formats with due emphasis on cost and efficiency parameters, removal of discrimination, addressing the confidentiality of cost data, and reducing cost of compliance were met.

Importantly, cost accounting standards issued by the ICAI to bring uniformity and standardization in cost statements were recognized, and the requirements of various government authorities and regulatory bodies for availability of certified cost data of all companies for their purpose and improve the quality of cost information for better decision making.



A vigorous discussion followed the presentation. DePaul's faculty felt these standards highlight the importance of enhancing the quality and reliability of cost data used in reporting to various stakeholders including owners, stockholders, and government agencies. By integrating the concepts of cost audit into DePaul's managerial accounting curriculum, we enhance our students' knowledge of understanding and controlling costs. These students will be more capable in their career. Further, our students who are auditors and financial accountants will be better able to carry out their functions because they understand the underlying costs in the reports they prepare or audit.

2.Valedictory Session in 40th All India Accounting Conference and International Seminar (November 18-19, 2017) at Udaipur (Rajasthan) was chaired by Professor J. P. Sharma, Vice Chancellor, Mohanlal Sukhadia University. Mr. Hansraj Choudhary, President, Udaipur Chamber of Commerce and Industry, was the Guest of Honour. The office-bearers of the Indian Accounting Association and Conference Secretary, Professor G. Soral, were among others who graced the occasion. His comments are given below.



The event was an annual convention of the Indian Accounting Association which was expected to have good international presence. Cost Audit was found to be an apt topic for the valedictory address of the convention because India initiated the concept of such audit in the world. Further, with growing competitive environment

in goods and services operations sector, the importance of such audit has gained further importance.



The project undertaken by Prof. Banerjee on Cost Audit, in his honorary capacity as a senior member of the Institute of Cost Accountants of India (ICAI), shall play an important role in contributing knowledge in this area. The presentation covered authentic information about the history and present status of Cost Audit which shall be immensely useful in disseminating information about the subject emphasizing its professional relevance and identifying grounds for further research on the subject.

Cost Audit provisions in the erstwhile Companies Act 1956 and now in the Companies Act 2013 have in fact paved the way for meticulous Cost Accounting. If the two Acts as above are compared, it is indicated that the related legal provisions have moved towards improvements in this direction. This shall strengthen Cost Management in the prevailing competitive environment.

Growth of knowledge in the area of Cost Audit shall add to academic and professional knowledge in a significant manner. This in course of time shall help improve productivity of organizations and thus, strengthen economy in general.

The Valedictory Address delivered by Prof. Banerjee widely covered evolution, growth and legal status of Cost Audit.

3. CMA Dr. P. Srikanth, Assistant Professor of Commerce, P. G. Department, Osmania University, Hyderabad, was one of the delegates who were present at the Valedictory Session. The author sought his opinion on the topic and presentation. Dr. Srikanth is one of the members of the Hyderabad Chapter of Professional Development of the Institute of Cost Accountants of India. His



comments, divided under several questions, are also given below.

(i) Re. the Project undertaken by Dr. Bhabatosh Banerjee on behalf of the ICAI

Professor Banerjee deserves sincere appreciation for his great endeavour in documenting the pioneering role played by the Institute of cost accountants of India (ICAI) since, 1947 in promoting cost accounting practices in India. He has coherently presented the historical background of the cost accounting and cost audit system in India highlighting the milestones in the history of the same. The research questions are well articulated and are more relevant in the present context.

The study will enrich the knowledge of the accounting professionals about the importance of cost accounting and cost audit. Liberalization augmented competitive spirit in the business entities in India. A business entity can create, maintain and enhance its competitive advantage only when it has a well integrated cost accounting system and well structured cost audit plan. In the light of this, need for the continuity of cost audit after the liberalization should be assessed. It is also important to deliberate on the paradigm changes required to be made in the principles of cost audit to make it more relevant in the present scenario.

The present study will provide valuable insights into the intricacies of the provisions of cost audit and also spot the areas of improvement in the provisions of the same.

(ii) Was cost audit provision justified and did it enhance

the quality and reliability of cost data to the stakeholders?

I strongly feel that cost audit provisions are totally justified and they enhance the quality and reliability of cost data to the stakeholders. Cost audit ensures that the cost information used by the management for decision making is more accurate and reliable.

(iii) Does knowledge of this area help accounting academics and professional accountants to enhance their knowledge which will be ultimately useful to the profession in particular and the economy in general?

Yes. The knowledge of cost accounting and cost audit is quite helpful to the academicians and accounting professionals to excel in their professional career. I strongly believe that the knowledge of accounting is incomplete without the knowledge of cost accounting. The cost accounting data plays a pivotal role in managerial decision making. In the competitive world, a firm can successfully confront the competition from its peers only when its cost structure is more efficient. Cost control and cost reduction are the crucial tools which help in augmenting the competitiveness of a firm. Increased competition in the market motivates the management to frame more flexible strategies of pricing. The bedrock of any pricing strategy is the cost accounting information. So, strategic cost management is gaining its importance in the recent past.

Your study shed light on the valuable applications of cost accounting in crucial key areas like fighting against anti-dumping, resolving transfer pricing issues by helping the regulators and companies in deciding the arm's length price, augmenting the quality of corporate governance etc.,. These areas provide vast scope for empirical research by the academicians as well as by the professionals. I myself got interest in these areas of research after reading your study. In future, I will also take up a research in any of these areas, for which I need your valuable guidance.

The knowledge on cost accounting standards helps the academicians and accounting professionals in gaining valuable insights into the fundamental principles of cost accounting and their applications in real life.

(iv) Regarding presentation


The presentation at IAA Conference was greatly enlightening and thought provoking. The historical trends in the cost accounting profession were touched in more lucid

style. There was excellent elucidation of the core strengths of the cost accounting profession. The global footprint of ICAI was also pointed out besides the regulatory environment governing the cost accounting practices in India. The legitimate justification of the continuation of cost audit after the liberalization was another point of emphasis in the presentation. Dr. Banerjee is the iconic cost accounting professional in India who aptly represented the fraternity of cost accounting professional on the dais.

Concluding Observations

The author reiterates his arguments for continuation of cost audit in Indian environment. Cost accounting standards on different cost areas have now become a fact of corporate life in India and many other industrialised countries. These standards are intended to bring uniformity and consistency in the principles and methods of determination of cost of a product or service. Cost statements cannot be described as complying with the Cost Accounting Standards unless they are in conformity with the requirements of each applicable standard. So, cost accounting standards have now become integral part of cost and management accounting system in any modern organisation in India.

It may be argued further that incorporation of two important provisions (Sections 128 and 148) in the Companies Act, 2013 is a step in the right direction. It is also well-established in the available literature that Cost Accounting pays for itself, that is, benefits arising out of it far exceed its cost of operation of the system. Why then modern cost and management accounting should not be a part of modern management system in any organisation? In that case, maintenance of specified cost books will be a routine matter without any problem. This in turn will promote cost audit. They are complimentary to each other. Let the ICAI continue to play its pioneering role more effectively in the proposed changed context.

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GST DATA & COST RECORDS/COST AUDIT ANNEXURES TO BE MAINTAINED AS PER THE CUSTOMS TARIFF HEADINGS



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MCA has issued one notification issued on 20th Dec 2017 which is going to pave the way for alignment of Cost Records with GST records after the implementation of GST. The Companies Cost Records & Audit Rules 2014 (CCRAR) earlier referred to CETA whereas in the GST regime, presently most of the chapters of Central Excise Act do not exist except for few Chapters. Now with the issue of the notification on 20th Dec 2017, the CETA Headings have been replaced with Customs Tariff headings (Refer Extract 1)

It also needs mention that “heading”, in respect of goods, means a description in list of tariff provisions accompanied by a four-digit number and includes all sub-headings of **tariff items** the first four-digits of which correspond to that number and tariff item means a description of goods in the list of tariff provisions accompanying **eight-digit number**.

A question is being raised by different quarters that whether the cost data is required to be maintained at four-digit level (heading) or at eight-digit level (tariff item). It needs mention that for the year 2016-17, the costing data was required to be maintained at eight-digit level of CETA. Also, the revised business rules for XBRL had mandated eight-digit codes. The concerned rule reads like “The concatenated “CETACodeofManufacturedProduct” and “SubheadingofCETACode” shall be a **valid 8-digit CETA code**”. Under the GST regime also the maintenance of cost records may be kept at eight-digit level and reporting at four-digit level.

For the 2017-18, the data to be reported to MCA will be from two different indirect tax regimes, April 2017 to June 2017 from Excise/VAT and from July 2017 to Mar 2018 from GST regime. The back up of the data need to be kept separately and then consolidated for the purpose of reporting to Ministry of Corporate Affairs under CCRAR 2014, wherever applicable.

One need not forget that any organisation dealing in export or import is required to keep the data at eight-digit level as per the Customs Tariff Act.

Under GST for the sake of convenience initially, the government may have allowed the data to be maintained at four-digit level, but in future GST authorities may ask for the data at the eight-digit level as the reference to the Customs Tariff has been made in the GST notifications.

Suggestion: The companies which have to follow Companies Cost Records and Audit Rules 2014 are required to maintain the data at the product level and then at tariff heading level for reporting to MCA, these companies should keep maintaining the data at Eight Digit Level also.

GST regime also referred to Customs Tariff Act as given below (Extract 2) for the purpose of imposition of rates on various types of commodities. Though, the GST rates notification have shown four digits and GST rates have been mentioned at the four-digit levels i.e. headings but it needs mention that a reference to the “Tariff item”, “sub-heading”, “heading” and “Chapter” has also been made in the same notification and

Extract 1

Extract of Notification no. G.S.R. 1526(E). dated 20th Dec 2017 issued by Ministry of Corporate Affairs is given below:

In the Companies (cost records and audit) Rules, 2014 (hereinafter referred to as the principal rules), in rule 2, for clause (aa) the following clause shall be substituted and shall be deemed to have been substituted with effect from the 1st day of July, 2017, namely: -

(aa) “Customs Tariff Act Heading” means the heading as referred to in the Additional Notes in the

First Schedule to the Customs Tariff Act, 1975 (51 of 1975).

3. In the principal rules, in rule 3, for the words “Central Excise Tariff Act Heading”, occurring at both the places, the words “Customs Tariff Act Heading” shall be substituted and shall be deemed to have been substituted with effect from the 1st day of July, 2017.

4. In the principal rules, in the Annexure, in Form CRA-2, Form CRA-3 and Form CRA-4, for the words

“CETA Heading”, wherever it occurs, the words “CTA Heading” shall be substituted and shall be deemed to have been substituted with effect from the 1st day of July, 2017.

Extract 2


Extracts from Notification No.1/2017-Integrated Tax (Rate) New Delhi, the 28th June, 2017 & Notification No.1/2017-Central Tax (Rate) New Delhi, the 28th June, 2017

(iii) “Tariff item”, “sub-heading”, “heading” and “Chapter” shall mean respectively a tariff item, sub-heading, heading and chapter as specified in the First Schedule to the Customs Tariff Act, 1975 (51 of 1975). (iv) The rules for the interpretation of the First Schedule to the Customs Tariff Act, 1975 (51 of 1975), including the Section and Chapter Notes and the General Explanatory Notes of the First Schedule shall, so far as may be, apply to the interpretation of this notification. 2. This notification shall come into force with effect from the 1st day of July, 2017.

Explanatory/Additional Notes of the First Schedule of The Customs Tariff Act

The Additional Notes in the First Schedule of The Customs Tariff Act 1975, explains the different terms as follows:

- (a) “heading”, in respect of goods, means a description in list of tariff provisions accompanied by a four-digit number and includes all sub-headings of tariff items the first four-digits of which correspond to that number;
- (b) “sub-heading”, in respect of goods, means a description in the list of tariff provisions accompanied by a six-digit number and includes all tariff items the first six-digits of which correspond to that number;
- (c) “tariff item” means a description of goods in the list of tariff provisions accompanying eight-digit number and the rate of customs duty;

The views are personal and the readers are requested to refer to the relevant laws specifically 

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RELATIVE VALUATION METHODOLOGIES: A PRACTICAL PERSPECTIVE



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With equity valuations reaching dizzying heights across various developed and emerging markets, understanding of valuation methodologies and their applicability for different sectors become immensely important for investors. Valuation methodologies can be classified broadly into 3 categories: absolute, relative and sum of the parts (SoTP). Relative valuation methodology is more commonly used by the practitioners in up to 90% of the cases (Damodaran, 2006). This is because, practitioners find relative valuation as a faster and more intuitive method of valuation than a detailed absolute valuation model, which requires a lot of assumptions. However investors having limited knowledge of various valuation tools tend to use relative valuation in an ad-hoc manner, ignoring the dynamics and sensitivities of different business models. Thus the implementation of various valuation methods is generally misapplied in terms of company's ability to create value resulting in either undervaluation or overvaluation of a given stock.

The most commonly used metrics which are used in the financial markets for relative valuation are price to earnings (P/E), enterprise value to EBITDA (EV/EBITDA) and price to book value (P/B). Other metrics like Price to sales (P/S), or asset based valuation techniques (Enterprise value to invested capital) are used when accounting numbers are undefined/ not available or for start-ups. The ideal way to calculate these multiples is on forward looking estimates of accounting numbers like EPS (earnings per share), EBITDA (earnings before interest, tax, depreciation and amortization) and book value respectively. These estimates could either be the consensus (mean/median) estimates of all the analysts tracking that particular stock or else, an informed investor could make his own estimates. The time period of the estimates commonly preferred is based on "one year forward" estimates for the next fiscal year.

Analysts might also use a "two year forward" estimate to calculate multiples when there is sufficient visibility. Nonetheless, since the markets are always forward looking, the use of historical (actual) numbers to calculate the relative valuation ratios is not an accurate practice and might not give a correct picture. Hence, making accurate estimates of accounting parameters is the first step to find out the right valuations.

Challenges of Using Relative Valuation Techniques

For using relative valuation to value a company, finding a peer company to use as a benchmark is the key first step. This peer needs to have the same business risk, profitability and future growth expectations. Often firms might differ significantly in these parameters, even within the same sector (See Table 1). For example, as shown in Table 1 for the cement sector, the range of one year forward P/E multiple is from 16.6x to 65.2x. Hence one has to be careful before directly applying a peer multiple as a benchmark since there might be a significant cross sectional variation in valuation multiples across the peer set. The difference could be due to variety of reasons like difference in growth prospects, profitability or a difference in corporate governance, even within the same sector. Using the right method of consensus (median rather than mean) and the right peer to compare to is the most important. The key is to find the closest comparable company and adjust it for the differences in business fundamentals, corporate governance and management quality. Certain other aspects like ownership (MNC vs non MNC) could also impact valuations. MNCs (Multi-National Companies) typically trade higher because of better perceived corporate governance and de-listing potential, even if business fundamentals are not very different. Thus it is true that there is a high level of subjectivity when using relative valuation.

Table 1: Relative Valuation Benchmarking

Name	Current Market Cap (INR Million)	Current EV (INR Million)	P/E 1 yr fwd	EV/EBITDA 1 yr fwd
Ultratech Cement Ltd	1,147,963	1,293,083	42.2	20.3
Grasim Industries Ltd	777,264	1,502,364	16.6	15.7
Ambuja Cements Ltd	525,600	522,290	35.3	15.6
ACC Ltd	320,562	302,709	36.4	17.7
Dalmia Bharat Ltd	262,419	313,170	41.5	14

Name	Current Market Cap (INR Million)	Current EV (INR Million)	P/E 1 yr fwd	EV/EBITDA 1 yr fwd
Ramco Cements Ltd	166,653	179,886	23.9	14.7
Birla Corp Ltd	87,019	124,203	34.2	12.9
OCL India Ltd	82,553	77,562	17.1	17.4
JK Cement Ltd	71,710	89,305	21	10.4
Prism Cement Ltd	56,250	77,408	65.2	17.9
India Cements Ltd	52,801	80,862	17.6	8.9
JK Lakshmi Cement Ltd	48,027	67,673	31.4	12.8

Source: Bloomberg estimates, Prices as of 20th Nov 2017.

Relative Valuation Techniques:

As discussed earlier, there are three main valuation ratios most commonly used in industry, P/E, EV/EBITDA and P/B. P/E ratio is the most commonly used across most industries since it shows a direct association between earnings and price and can be directly applied without any adjustments. However, earnings are most vulnerable to accounting manipulations since it is affected by both operating and financial leverage. Also focusing on only P/E multiple might make a comparable company with a higher leverage look optically cheap. As a corollary, a company with high cash in the balance sheet might have a distorted P/E ratio due to high component of “other income” in profits.

EV/EBITDA multiple performs better than P/E multiple when it comes to impact of accounting anomalies. Difference in finance leverage doesn't impact this ratio since it looks at the firm level and at the core business only. However it suffers from other drawbacks. It doesn't include the impact of different tax rates. Also adjustment for associate and subsidiary companies becomes a bit complex. Similarly, impact of items like goodwill, “other comprehensive income” (OCI), hedging reserves etc., should be adjusted while calculating the P/B multiple.

It should also be noted that all one-off accounting items should be adjusted before applying a particular multiple, to remove any distortions. Also differences in accounting standards should be made uniform to enable a like-to-like comparison. This might include adjusting for depreciation rates or research & development expenses so that accounting policies do not distort the multiples.

A short description of the different valuation multiples

are given as below:

1) Price-to-Earnings (P/E) Ratio: Price-to-Earnings ratio simply measures as to how pricey or expensive the stock is relative to its earnings. In effect, the ratio is measured by dividing market price per share with the estimated earnings per share (EPS) for the concerned company. For example if the P/E ratio of Britannia is 59, it implies that investors are ready to shell out INR 59 for each rupee of earnings being generated by the company. P/E ratio should ideally be measured on a forward basis since markets focus on future growth and profitability, and not trailing. The one year forward multiple is the most popular method, while two year forward multiple is also used when there is sufficient visibility for the next two years. In case of one year forward P/E ratio, market price per share is divided by the expected earnings per share for the next fiscal year.

1 year forward P/E ratio = Market Price per Share/ Next fiscal year estimated EPS

For example, the current market price per share of Britannia Industries is INR 4,816 and as per Bloomberg, the consensus EPS estimate for Britannia Industries is INR 84.72 (for year ending March 2018). Consequently, the 1 year forward P/E ratio can be calculated as:

$$1 \text{ year forward P/E ratio} = 4,816/84.72 = 56.8x$$

Similarly, according to Bloomberg, the 2 year forward ratio for Britannia is 46.8x at the current market price of INR 4816.

Applicability of P/E ratio: P/E ratio technically can be

used for all companies with positive earnings per share. However, the ratio would serve little purpose for companies having significant volatility in earnings from one year to another. For example, earnings of banking and financial services companies are highly volatile on account of treasury gains/losses and provisioning requirements on year to year basis. Consequently, comparison of P/E ratio becomes quite difficult across various years as well as with competing companies. Similarly in cyclical and/or highly capital intensive industries (like infrastructure companies), P/E ratio tends to lose its significance as earnings are highly volatile and even sometimes negative. So, in effect P/E ratio would be a good measure for non-cyclical industries like consumer staples, consumer discretionary, information technology among others. For cyclical industries, a long term variant of P/E ratio called the Shiller CAPE (Cyclically adjusted PE) ratio has been suggested which considers the moving average of last 10 years earnings, adjusted for inflation.

The P/E ratio should also be applied to the diluted EPS (which accounts for the conversion of stock options, warrants, bonds and other convertibles) and the earnings should be adjusted for transitory and non-recurring items. Differences in accounting methods should be taken care of. The impact of the dilution on accounting numbers (increase in other income/decrease in interest expenses) should also be considered while calculating the diluted P/E multiple, and not just only increase in shares outstanding.

2) Price-to-Book (P/B) Ratio: Price-to-Book ratio measures as to how expensive the stock is relative to its book value (here book value refers to shareholder's equity or the difference between assets and outside liabilities on the balance sheet). Basically, the ratio is measured by dividing the market price per share with book value per share (BVPS) for the concerned company. Similar to P/E ratio, P/B should also be calculated on a forward basis.

1 year forward P/B ratio = Market Price per Share/ Next fiscal year estimated BVPS

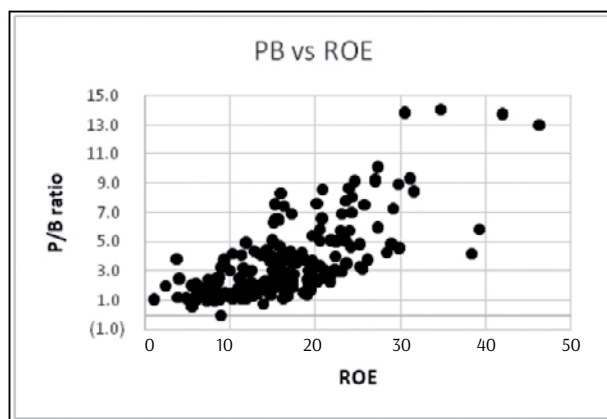
For example, the current market price per share of ICICI Bank is INR 320 and the consensus estimate of BVPS for the next fiscal year (as on March 2018) is INR 159.9. One year forward P/B ratio can be thus calculated as:

$$1 \text{ year forward P/B ratio} = 320/159.9 = 2.00x$$

P/B ratio is nothing but P/E ratio multiplied by return on

equity (RoE). Hence the P/B ratio is highly sensitive to RoE assumptions. (See Chart 1)

Chart 1: Sensitivity of P/B ratio to ROE.



Applicability of P/B ratio: P/B can be applied to value companies where earnings are negative. This is because the book value, being an accumulated balance sheet number, is generally not negative and much more stable compared to yearly earnings. For banking and financial services companies, P/B is generally a preferred multiple primarily because of a) volatility in earnings on account of treasury gains/losses and provisioning requirements and b) book value of assets (mainly loans) correctly resembling the fair market value.

The usual caveats apply of adjusting the book value for goodwill/intangibles, fair value changes and capitalization assumptions, before applying the P/B multiple. This is to make the multiple comparable across companies. Any impact of other off balance sheet liabilities should ideally also be considered on the book value.

3) Enterprise Value-to-Earnings before interest, tax, depreciation and amortization (EV/EBITDA) Ratio: EV/EBITDA ratio measures the enterprise value of the company relative to its operating profit or EBITDA. Enterprise value of the company can be measured as:

$$EV = \text{Market Value of Equity} + \text{Market Value of Preferred Equity} + \text{Market Value of Debt} - \text{Cash \& Cash Equivalents}$$

Applicability of EV/EBITDA ratio: EV/EBITDA multiple is generally used for capital intensive businesses such as telecom, infrastructure, steel etc. which have either large investments in fixed assets or are operating with high debt levels. EV/EBITDA multiples uses the core operating

profitability (EBITDA) in its calculation thereby controlling for differences arising on account of depreciation methods as well as leverage (interest) levels across companies. Similar to P/B ratio, EV/EBITDA ratio can also be applied to companies where earnings are negative.

Adjustment of EV/EBITDA multiples for accounting conventions (expensing vs. capitalizing R&D or operating vs. financial lease) should be considered. Adjustment for associates/subsidiaries is another important aspect.

4) Price-to-Sales (P/S) Ratio: Price-to-Sales ratio compares the market price of the company relative to its annual revenue or sales per share.

$P/S \text{ ratio} = \text{Market price per share} / \text{Revenue or Sales per share}$

Applicability of P/S ratio: P/S ratio is generally used for companies or sectors where the operating profitability is negative. For example, start-ups or early stage companies (like e-commerce) tend to have heavy capital outlays, low

(or negative) operating profitability and accumulated losses in the earlier years. Consequently, they cannot be valued using P/E or P/B or EV/EBITDA ratios. In such cases P/S can be a useful metric while comparing the relative valuation of various early stage companies.

Relative valuation across sectors

Even though theoretically, a valuation multiple should not depend on the sector it is applied to, certain sectors are more amenable to be valued using a specific methodology. As discussed earlier, P/E multiple is the most commonly used across sectors, since it is easiest to associate profits to market price. P/B multiples could be used in case of sectors having long life assets (real estate, oil and gas) and banking and financial services (BFSI) companies in which book value is closely associated with net replacement value. EV/EBITDA is used in case of capital intensive and cyclical industries. It is also preferred when financial leverage is high. P/S ratio is used in case of start-ups or firms in investment stage when none of the other accounting numbers are stable.

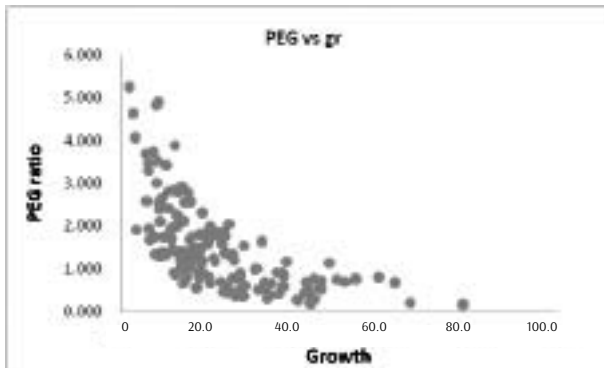
Table 2: Relative valuation methods for different sectors

	P/E	P/B	EV/EBITDA	P/Sales
Consumer Staples	√			
Consumer Discretionary	√			
Oil and Gas		√	√	
Information Technology	√			
Banking and Financial Services		√		
Insurance		√		
Steel			√	
Power		√	√	
Real Estate		√		
Start-ups/Early Stage				√

Adjustment of Multiples

Since it is almost impossible to find an exact comparable peer, we have to adjust for differences in profitability, growth and risk in order to make multiples comparable. It can either be done in a subjective manner or using a formal method. A common multiple used for this purpose is the PEG (P/E divided by growth) multiple. However this adjustment does not account for difference in business risk. Also P/E and growth do not have a linear relationship, especially at very low and high levels of growth. Thus, one has to be careful in using PEG ratios to compare high and low growth companies.

Chart 2: Non linear relation between PEG ratio and growth



Adjusting the EV/EBITDA multiple for impact of associates and subsidiaries is also important since accounting convention might distort the multiples. For eg, EBITDA includes the full consolidation of subsidiaries while the enterprise value (EV) includes consolidated debt but only proportionate market value. Hence, investment in associates should be removed while calculating EV in EV/EBITDA and proportionate accounting should be done in both EV and EBITDA while valuing a company having a subsidiary.

Rerating and de-rating of Multiples

Apart from using relative valuation of comparing across companies, it can also be used to compare a firm against its own historical multiples. Any change in valuation multiples across time could result from changes in business fundamentals (technology/competition), changes in leverage (leading firm to distress) and also changes in macro-economic fundamentals like inflation and interest rate.

Re-rating or de-rating of firms is significant since it is often a stronger driver of stock prices than just profit growth. A firm seeing strong business prospects is accompanied by a re-rating of valuation multiples along with increased profits and vice versa. Often, the change in multiples is the key driver of stock price.

We see in the chart 3 below how the market has de-rated the P/E multiple of Infosys in the last 5 years. This is due to technological uncertainty along with a flux in the management.

Chart 3: De-rating for Infosys over the last few years



Source: Bloomberg

On the contrary, Reliance Industries Ltd (RIL) has seen a strong re-rating over the last 1 year, as prospects of its telecom venture R-Jio became clearer (Chart 4). The re-rating has been the key driver of stock price and reflects the confidence of the market on the future business prospects of R-Jio, which might not yet reflect in near term profitability.

Chart 4: Re-rating of Reliance Industries (RIL) over the last year



Source: Bloomberg

Conclusion

Relative valuation is a more commonly used method of valuation by industry practitioners since it provides a quick judgment of how cheap or expensive a company is trading at. The most commonly used valuation multiples in the industry are the P/E, EV/EBITDA and P/B multiples. However, like all methods, it should be applied in a proper

manner.

The first step for applying relative valuation is to find the right peer set for comparison. The peer for comparison should have similar profitability, growth and risk characteristics. Clearly, finding the right peer is a difficult job which calls for adjustment in the multiple for the differences. The second step is the suitability of a valuation multiple for a particular sector. Thirdly, the right multiple might depend not only on company parameters but also macro factors like technology, competition, inflation and interest rate. This can make the multiples vary significantly with time leading to re or de-rating. Finally, before applying a multiple, full adjustments have to be made for non-recurring items and different accounting assumptions.

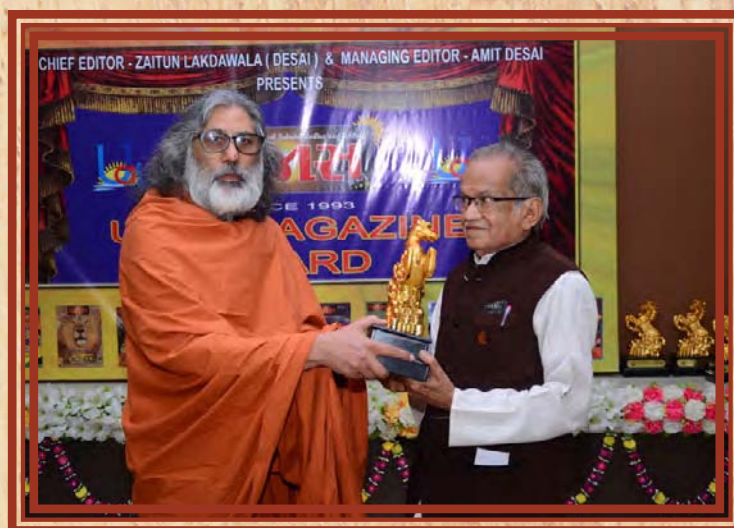
The proper application of relative valuation methods require certain amount of subjectivity and comes with practice and experience. It is true that valuation is a craft which is a mix of both art and science. **MA**

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Congratulations



Our heartiest congratulations to CMA Manubhai K. Desai, Past Chairman of Surat South Gujarat Chapter and WIRC having been awarded 'UJAS Millennium Award' by 'UJAS Magazine' of Gujarat at the hands of Dr. Chaitanya Swamiji (Praneta of Sahaj Yog) on 6th January, 2018. This has been awarded in recognition of his dedicated services to the society in general and particularly to the Cost & Management Accountancy Profession. We wish CMA Manubhai K. Desai the very best in all his future endeavours.



CUSTOMER'S ACCEPTANCE OF E-BANKING SERVICES IN COIMBATORE CITY



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Technological developments in the banking sector have speeded up communication and transactions for clients (Booz et al., 1997). Internet banking is one of the technologies which is fastest growing banking practice now a days. It is defined as the provision of information or service by a bank to its customers over the internet. With the infusion of technology into the banking systems, it is now possible for the banks to provide multiple delivery channels for provisioning of banking products and services. E-banking services first emerged in the early 1990s, when credit card, ATM, and telephone banking services were three major applications. During the last decade, database, information system and other technologies were applied into banking services at different levels. After the availability of internet facility, e-banking services are now conducted through a secure website operated by local banks and includes online enquiry, e payments, e-transfer etc. A system that satisfies user's needs boost satisfaction with e-banking and is an indicator of the system's success (Pikkarainen et al., 2004). Hence an attempt was made to find out the level of acceptance of e-banking services by the adopters while using the e-banking services.

The development of Information and Communication Technology (ICT) have brought a lot of changes in almost all aspects of every individual's life. In the Banking Industry, it has been in the form of E-Banking or Online Banking or Internet Banking, which is now replacing the traditional banking mechanism. It has a lot of benefits which add value to enhance customers' satisfaction in terms of better quality of service offerings and simultaneously enable the banks to gain more competitive advantage over other competitors. Hence, the study throws lights on to investigate the socio-economic profile of the users of e-banking services and to study the impact of demographic variables on respondent's satisfaction level of e-banking services. The study selected 450 customers by adopting purposive sampling technique. The study found that majority of the customers were satisfied with e-banking services in Coimbatore city

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Objectives

- ① To investigate the socio-economic profile of the users of e-banking services.
- ② To study the impact of demographic variables on respondent's satisfaction level of e-banking services.

Hypothesis

- ① E-banking users are young, highly educated and wealthy.
- ② There is no difference in the perceptions of bank customers of public sector, private sector and foreign banks with regard to level of satisfaction in the services offered by the banks.
- ③ The level of satisfaction is independent of the demographic profile of bank customers.

Earlier Studies

Dharshan Lal (2015) states that now a day, banking industry in India are rapidly increasing their reach and enhancing their services levels through the extensive use of internet banking. The internet banking services have now become quite common in Indian banking customers. The study has undertaken on the user of internet banking services of urban population of Haryana in special reference of customer satisfaction level, problems faced and possible solutions, which will, in a broad sense, be applicable to the whole of India.

M. Jayanthi and Dr. R. Umarani (2012) carried out a study on “Customer Perception and Satisfaction towards Internet Banking Services”. The study aimed to “plug” the gap

between the perceived experiences and level of satisfaction of customers' towards Internet Banking facilities offered by the three private sector banks namely HDFC bank, Axis bank and ICICI bank. The study revealed eight composite dimensions of electronic service quality, including Login feature, Information on the site, Linking feature, Service feature, Customer care, Security system, Service usage, and Unique feature. The respondents preferred the banks for customer responses, Login feature, Security system, and Service usage of HDFC bank and Linking feature, Service feature, and Service usage of AXIS bank, and Login feature, Information on the site, and linking feature of ICICI bank. The respondents also preferred internet banking over manual banking for Convenience (24 hours service, anywhere connectivity) and Time saving (no queues and waiting time).

Kumbhar (2011) in his research article on “Factors Affecting the Customer Satisfaction in E-Banking: Some Evidences from Indian Banks” evaluated the major factors affecting customers' satisfaction in e-banking service settings. It also assessed the influence of service quality on brand performance, perceived value and satisfaction in e-banking. It indicated that perceived value, brand performance cost effectiveness, easy to use, convenience, problem handling, security and assurance and responsiveness are important factors in customer satisfaction in e-banking.

Methodology

The study was based on primary and secondary data. Public sector banks, private sector banks and foreign banks operating in Coimbatore city form the universe of the study. Together 42 banks were selected constituting 76

percent of the universe. From these selected banks, 450 customers were selected by adopting purposive sampling technique. The data was collected by administering a pre-tested interview schedule during the period June 2016 - November 2016. Besides averages and percentages, technique like Chi-square test were used.

Socio-Economic Profile of the Respondents

E-banking is one of the few emerging areas in banking operations, which has started with the rapid advancement of technology and the availability of internet facility. In a competitive market share, banks are constantly vying for customers. Banking has become a process of choice and convenience; better the service, higher the customer's inclination to a bank and vice-versa and e-banking is vital for both the banking industry and the customers. Hence an attempt was made in this study to explore the socio-economic profile of the customers of e-banking facilities so as to identify the acceptance level of e-banking services by the customers.

Sex: The use of e-banking facilities was not very popular among the females, which may be attributed to their being not technically savvy or another reason being that when husband gets a card from a private bank or other financial institution, they do give a supplementary or a complementary card to the spouse. Women automatically become entitled to it but hardly use it.

Age: The maximum preference for the e-banking was seen among population aged 20-30 years (42 percent) which supports the earlier findings, that younger generation prefer e-banking compared to older age group (Howcraft, 2002; Mobarek 2007), but contrary to the findings reported by Pew Internet and American Life Project (2002) which states that the highest category using online banking is more with people aged between 30 to 49 years.

Marital status: Majority of them were married (59 percent) and rest of them were unmarried.

Education: Majority (42 percent) of them were graduates. Among the post graduates there was not much of a definite preference for e-banking services. However among the professional about 11 percent were users. Thus, there was a definite preference among the educated respondents for e-banking services.

Occupation: The occupation of the respondents included services, business, professionals, agriculturalists and traders. Majority (34 percent) were businessmen, followed by services (24 percent) and professionals (16 percent). E-banking users were generally belonging to upper echelons of the occupation cadre.

Monthly income: More than 4/5th of the e-banking users earned above Rs.10,000/- per month, E-banking users were generally belonging to higher income strata.

Level of Acceptance of E-Banking Services by Customers

Adoption of electronic banking service delivery is fast gaining ground. The customer's benefits from e-banking are, they enjoy self-service, freedom from time and place constraint and reduced stress from queuing in banking hall. Thus, time and cost savings and freedom from place have been found to be the main reasons for the acceptance but this does not ensure the quality and effectiveness of the system. A system that satisfies user's needs boosts satisfaction with the system and is an indicator of the system's success (Pikkarainen et al., 2004). Hence an attempt was made to find out the level of acceptance of e-banking services by the adopters and the findings are presented in table 1.

TABLE- 1
Level of Acceptance of E-Banking Services

Level of Acceptance	Type of bank			Total
	Public Sector Banks	Private Sector Banks	Foreign Banks	
Highly satisfied	80 (38.1)	64 (38.1)	25 (34.7)	169 (37.6)
Satisfied	92 (43.8)	77 (45.8)	31 (43.1)	200 (44.4)

Level of Acceptance	Type of bank			Total
	Public Sector Banks	Private Sector Banks	Foreign Banks	
Neutral	33 (15.7)	20 (11.9)	14 (19.4)	67 (14.9)
Not satisfied	3 (1.4)	7 (4.2)	1 (1.4)	11 (2.4)
Not highly satisfied	2 (1.0)	0	1 (1.4)	3 (0.7)
Total	210 (100)	168 (100)	72 (100)	450 (100)

Source: Field Survey

Figures within parentheses indicate percentage to column total

While 1/3rd of the users were 'highly satisfied' with e-banking services, about 2/5th of them were only 'satisfied'. The proportion of customers who were dissatisfied with e-banking services was around two percent and less than 1 percent was highly dissatisfied. About 15 percent of the users were neutral about e-banking services. At the individual bank level too, similar trend was seen. Thus majority of the users were satisfied with e-banking services and the level of dissatisfaction was negligible.

Chi-Square Analysis

In order to investigate the relationship between level of satisfaction of e-banking users and demographic profile (gender, age, marital status, education, occupation and salary) of the user, Pearson's chi-square test was done. The null hypothesis framed was:

H_0 : The level of satisfaction is independent of the demographic profile of the user.

H_a : The level of satisfaction is not independent of demographic profile of the user.

The calculated chi-square values are shown in table 2.


Table-2
Relationship between the Level of Satisfaction and Demographic Profile

Variable	Chi-square value	Degrees of freedom	Asymptotic significance	Inferences
Sex	2.377	3	.498	Accept H_0
Age	4.505	12	.972	Accept H_0
Marital status	19.662	9	.020	Reject H_0
Education	32.483	18	.019	Reject H_0
Occupation	27.887	15	.022	Reject H_0
Salary	30.348	15	.011	Reject H_0

Source: Estimation based on Field Survey

The study found no significant association between the level of satisfaction and sex and age of the respondents. However, marital status, education, occupation and salary were found to have significant association with the level of satisfaction. This implies that higher level of satisfaction was found among married respondents, persons with higher education, those holding higher positions and having higher salaries.

Conclusion

Adoption of electronic banking service is fast gaining ground in India. The study has endeavoured to look at the adoption of technology-enabled banking services in totality, as the customers tend to use the various banking services delivery modes in a complimentary way. From the study it was found that higher level of satisfaction was found among married respondents, persons with higher education, those holding higher positions and having higher salaries. Thus majority of the customers were satisfied with e-banking services and the level of dissatisfaction was negligible. The study recommends that the Government should play an important role in influencing the e-banking adoption level in a country through increase investment in education and infrastructural development to enable more customers to adopt the innovations. 

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ANTECEDENTS OF DIGITAL TECHNOLOGY USE FOR PAYMENTS AMONG GENERATION



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Digital payment is a way of payment which is made through digital modes. In digital payments, payer and payee both use digital modes to send and receive money. It is also called electronic payment. No hard cash is involved in the digital payments. All the transactions in digital payments are completed online. It is an instant and convenient way to make payments. For example, if one use cash payments, they have to first withdraw cash from their bank account. Then use this cash to pay at shops. Shopkeeper goes to the bank to deposit the cash which he got from the buyer. This process is time-consuming for the buyer and shopkeeper. But in digital payments, the money gets transferred from buyer account to the shopkeeper's account immediately. This process is automatic and neither buyer nor the shopkeeper is required to visit the bank. Digital payments save from long queues of ATMs and bank and reduces the cycle time of transaction money transfers.

Digital money (also referred to as electronic money, digital currency, or e-cash) comes in two basic forms, computer networks and digital stored value systems Cohn, 2001; EU, (2014). In recent years there has been considerable interest in the development of digital money schemes (Al-Laham et al., 2009). Digital money is viewed to have the potential to take over from cash as the primary means of payments (ibid.). In fact, digital money is widely argued to have greater potential to replace central bank currency Al-Laham et al., 2009; Berentsen, (1997). This clearly indicates that the advent of digital money will have an impact on the overall banking system and monetary policy (ibid.). Using cards, Internet payments are broadly supported and advertised. Governments are shifting their operations online as to allow their service payments to be conducted there. This is the aforementioned change from a sociological act to a technological one. According to MasterCard study, of the \$63 trillion in total global consumer spend in 2011, 34 percent (\$21 trillion) was

The paper currency in the form of cash is still the primary payment methods globally. Use of physical cash for transactions and payment purposes in daily routines is considered to be a psychological mindset rather than technology. Many consumers in the recent past has started using digital means to conduct transactions through virtual channels quickly, particularly the Generation Z. India has taken a firm decision to see its people engaging in digital transactions to send and receive money. We investigated the factors that influence the Generation Z to move or not to move towards digital payments, along with the benefits and risks. The perception of the user's signals that convenience as their major benefits and need for internet connectivity as their major drawback in using the technology for payments. Managerial Implications and scope for further research too has been discussed.



done with cash, while cashless payments accounted for 66 percent (\$42 trillion) Thomas et al., (2013). Consumer payments for goods and services accounted for about 11% of the value of payments around the globe, but this still represented more than 90% of volume of payments (or number of transactions). Cash accounted for 60% of the value of total retail payments in shops or online, but when other large consumer payments (e.g. wire transfer to buy a car, direct debit to pay mortgage) were included, the value of payments represented by cash fell to 34%. This sudden increase in electronic transactions is due to the multiple advantages cashless payments hold over paper money.

From commonly used cards to newly launched UPI, digital payments has many types of payment. Some modes meant for tech-savvies and some for less-technical persons. The following are the different modes of digital payments used by consumers viz., Unified Payment Interface (UPI) apps, Aadhaar Enabled Payment Service (AEPS), USSD, Debit & Credit cards, Electronic Wallets, (SBI Buddy, ICICI Pocket, etc.) Mobile Payment apps, Block Chain, Paytm, Tab, BHIM, LevelUP, Dwolla, Squarecash, Loop Pay, Facebook Messenger, Venmo, etc.,

Rationale of the Study

Paper money and coins (cash) are still the primary global payment methods, and are widely viewed as the physical portrayal of prosperity. The use of physical money is an act based on social behaviour rather than technology. Cash, while it can hide the user's identity, it has its limitations in availability and transportability. Further, with a rise in purchases through digital means, cash is seen rather an obstacle and risky to conduct transactions through virtual

channels quickly. Hence the need of the study.

Review of Literature

Credit Cards and Debit Cards

Given the proliferation of the credit card industry in today's US household, and the aggressive promotional tactics employed to get college students to sign on as customers. Students appear to have a realistic attitude toward using credit cards, although not knowledgeable about the details of their card. The author concludes by saying, with the computerization and modernization plastic money will become the status symbols in the 21st century of Indian traditional bound society (Warwick and Mansfield, 2000). The author suggested card issuers to introduce the emerging payment card technology like debit and smart cards (Maganty 1996) India by virtue of a late starter in the card industry is at an advantage as it can expect to shorten its learning curve by utilizing global experience and expertise in electronic payment system. (Joshi, 1996). This Paper outlines the rationale of those who are keen to promote the cashless society and the implications for marketers charged with winning consumer acceptance for payment by plastic card. Commencing with a European-wide view of the European plastic card market, focuses on recent developments within the UK, one of Europe's leading countries in the use of plastic cards as a means of payments, which will be contributing to the development of the cashless society. (Worthington, 1995)

Perception of Electronic Payment Systems

A significant number of users of digital payments perceives that there is a risk element in transacting through

digital modes. Though, they do not mind for smaller transactions but really scared to attempt big transactions. Researchers had pinned down various dimensions on the risk perceptions on electronic payment systems such that technological excellence cannot dictate success; a good marketing mix, prompt service support, sufficient legal protection and educational efforts, etc. are also relevant. Therefore, the service providers like Bank should understand and give importance to the perception of the user's and frame strategies to instil confidence among the users which will ultimately bring in more non users into the digital domain for transacting for their payments.

Simon and Victor, (1994) says, one reason for the slow adoption rate of electronic fund transfer at point-of-sale (EFTPoS) is that consumers perceive that EFTPoS has a higher level of risk than other traditional payment methods. The author's suggests that in order to reduce customer's fears and worries, it would be appropriate to consider introducing some risk reduction techniques. e.g. endorsements by key people in society (reducing psychological risk), money-back guarantee(reducing financial risk) and live demonstration and free trial (reducing time loss risk). Torbet and Marshall 1995 feels that while biometric technologies have the potential to reduce plastic card fraud there are several problems which must be addressed before they can be used in retail environments, like the recognition performance, speed of use, usability, customer acceptance, device cost are considered along with industry standards for biometric devices.

Convenience of credit card is not without its cost. The author warned the customers to use the card in effective and in a rational way because while choosing a particular card, the cardholder need to check different cost like annual fees, transaction fees, membership fees, and interest on revolving credit, lost card liability, reward point and facilities attached to different cards. According to author the card pushers offer a convenience but a good thing never comes with any strings attached (Fernand 1998)

Socio Demographics and User Behaviour

Black and Morgan (1998) in their paper investigates how the mix of credit card borrowers has changed in recent years, and how those changes affect delinquency risk. The new card holders seem riskier along several dimensions. They tend to earn less, and as a result, they owe relative to income. This rise in debt burden almost certainly

contributed to the rise in charge offs, since debt burdens are a key determinant of delinquency risk. Cardholders are also more likely to work at relatively unskilled blue collar jobs. This occupation shift may also have contributed to the rise in charge-offs, since delinquency rates are higher in those occupations, perhaps income is more cyclical. Some of the personal characteristics and attitudes that have changed, such as marital status and job tenure also imply somewhat higher risk.

Mathur and George (1994) says, the usage behavior pattern of older people with credit card spending. They found that older adults use credit cards as frequently as younger adults when circumstances and opportunities for consumption in both groups are similar. Factors such as income, employment, retirement status, shopping habits should be considered. While credit card usage may overall decline with age, certain segment of mature consumers continue making use of credit cards throughout the life. The data in the present study suggests alternative criteria like income and employment status, for appealing to mature Americans.

Natarajan and Manohar, (1993) reveals that sex, age, educational qualification of card holders has no relationship with utilization of card. While occupation, income, employment status of spouse, mode of getting card has relationship with utilization of card issued by Canara Bank

Limitations of Existing Literature

India marches towards cashless economy in full swing, but could not find place in the top non cash markets whereas china has. The usage of debit cards, ATMs has considerably increased in comparison with credit cards. Though, significant research had been done on credit cards and its variants, very little research studies has been attempted on digital payments in the Indian context particularly among the young students who fall under Generation – Z category. Further, study on usage of android apps like UPI, Aadhaar enabled payment services, E-wallets etc., has not been attempted by researchers and thus leaves a considerable gap in the research context which we now has attempted.

Research Objectives

Outcome of our literature survey revealed that very little research studies were carried on modern digital modes for payments among Individual users in India. Though, India had aggressively launched the digital campaign in the

recent past, for transitioning from traditional cash based payments to technology adoption by its people in order to curb many social evils found in traditional payment mechanism with cash. Previous researchers had pointed out that user demography also play an important role in technology adoption by the users. Therefore, in this study the authors had made an attempt to analyse the respondents perceived benefits on using digital mode for payments and to identify the risks involved in using digital payments along with the factors influencing Generation Z to move or not to move into digital payments. The author's foresee that the socio-economic profile, risk and perception of the individual users continue to impact the use of digital modes.

Research Methodology

In the present study, we considered use of digital technology for payments specifically focused on Generation Z (who were born between the year 1996 to 2006). In recent years there has been considerable interest in the development of digital money schemes (Al-Laham et al., 2009). Digital money is viewed to have the potential to take over from cash as the primary means of payments (ibid.). In fact, digital money is widely argued to have greater potential to replace central bank currency (Al-Laham et al., 2009; Berentsen, 1997). According to MasterCard study, of the \$63 trillion in total global consumer spend in 2011, 34 percent (\$21 trillion) was done with cash, while cashless payments accounted for 66 percent (\$42 trillion) (Thomas et al., 2013). Consumer payments for goods and services accounted for about 11% of the value of payments around the globe, but this still represented more than 90% of volume of payments (or number of transactions). Cash accounted for 60% of the value of total retail payments in shops or online, but when other large consumer payments (e.g. wire transfer to buy a car, direct debit to pay mortgage) were included, the value of payments represented by cash fell to 34%. This sudden increase in electronic transactions is due to the multiple advantages cashless payments hold over paper money. Today, around 85% of all retail payment transactions are done with cash, which equates to 60% of retail transaction value (Thomas et al., 2013). MasterCard research indicated that the degree of readiness to move to a cashless society is determined by factors like the accessibility and affordability of financial services, the

scale and market share of retailers; the level of technology that is available; and participation of consumers in the formal economy.

Sources of Data

We had collected the data from the Students population from higher educational institutions/Universities who belong to the category "Generation Z"(also called as i-Generation, Post Millennials) who are a demographic cohort. Researchers categorize the birth years from the mid 1990's to the mid -2000's. "A significant aspect of this generation is the widespread usage of the internet from a young age, who are comfortable with technology and interacting on social media websites" (Wikipedia)

We have used a self - constructed research instrument to extract the views of the respondents on perception, risk, benefits and factors that influence to move towards digital modes. This study also rallies on secondary data through, review of previous studies/literature, books, journals, websites, newspapers and periodicals.

The survey instrument was circulated among 150 students representing the Gen Z category. After due editing process and incomplete answers, the authors had settled down with 100 valid and complete responses which was included for further analysis. The variables picked up includes gender, age, monthly expenditure, etc., which was duly analysed and reported.

Results & Discussions

Demographic Metrics

The analysis reveals that, 95 percent of the respondents belong to the age group of 16 – 20 years, and 5 per cent belong to 10 -15 years. 52 percent of them were found to be females and about 48 per cent males. Educational distribution reveals that 78 percent were students pursuing their undergraduate studies and 22 per cent of them were in their schooling. Since they are teen agers, they depend on their parents for their monthly pocket expenses, we found that 88 percent of the respondents received below Rs.5000 and 12 per cent receive between Rs.5000 and Rs.10000. We also found 86 percent of respondents use digital modes for their transactions.

Table No. 1. Descriptive Statistics

S.NO	Demography	Description	Frequency	Percentage
1	Age(in years)	10 – 15	5	5

S.NO	Demography	Description	Frequency	Percentage
		16 -20	95	95
			100	
	Gender	Male	48	48
		Female	52	52
			100	
	Education	School	22	22
		UG	78	78
			100	
	Monthly Pocket Expenses	Less than Rs.5000	88	88
		Rs. 5000 – Rs.10000	12	12
			100	
	Using Digital Transactions	Yes	86	86
		No	12	12
			100	

Source: Computed

Perception of the Respondents on Digital Payments

The author's examined the relationship of demographic status like age, gender, educational qualification and monthly expenditure of the respondents with their perception about digital payments using the chi-square test. The analysis indicates that, age group and level of perception about digital payment are significantly associated. Similarly, there is no significant association with reference to gender, educational qualifications and monthly pocket expenses with the level of perception on digital payments. Therefore, we conclude that the level of perception on digital payments are independent of the respondents.

Risks Involved in Digital Payments

Secondly, Garrett ranking technique was used to rank the various risks involved in Digital payments, the respondents were asked to give ranks according to the magnitude of

the risk. The order of merit given by respondents were converted into % position by using the formula

$$\text{Percentage position} = \sum_{i=1} \sum_{j=1} 100 * (R_{ij} - 0.5) / N_j$$

$$i=1 \quad j=1$$

Where, R_{ij} = Rank given for i th factor by j th individual
 N_j = Number of factors ranked by j th individual

The percentage position of each rank thus obtained is converted into scores by referring to the table given by Henry Garrett. Then for each risk the scores of individual respondents are added together divided by the total number of respondents for whom scores were added. These mean scores for all the risks are arranged in the descending order, ranks are given and most important risks are identified.

Table 2. Risks Involved In Digital Payments

S.No	RISKS	Total score	Mean score	Rank
1	Incomplete Transaction	4000.00	40.00	3
2	Security Threats	5683.33	56.83	2

S.No	RISKS	Total score	Mean score	Rank
3	Internet connectivity	9166.67	91.67	1
4	Instable internet/Server Down/Network Error	3916.67	39.17	4
5	Complicated Refund process	3716.67	37.17	5
6	Others	3450.00	34.50	6

Source: Computed

On examining the risk perception of the Gen Z, the analysis revealed that among the six risks involved in digital payment, the mean score ranged from 34.50 to 91.67 and the 'Internet connectivity' secured higher mean score and ranked first, followed by 'Security threats' with second rank. Incomplete transactions secured third position. These ranking confirms that even the students in the urban area has an issue of internet connectivity, which is quintessential for engaging in digital transactions. Further, the respondents feel that there is a high amount of risk through security threats like fear of tampering with the passwords, server problems, fear of secrecy in one's identity and their bank accounts etc., are viewed seriously by the respondents. This is confirmed by the study by (Kanishka Gupta, 2017), on his article "cashless climate"

had said connectivity, security are among the key issues to be resolved as India moves towards a digitized economy. (Smith et.al, 2012) also approves that security in these digital transactions is crucial in order to build trust, which is considered vulnerable.

Benefits of Digital Payments

Thirdly, digital transactions are heavily encouraged by Government Machinery as a tool to curb illegal and corrupting transactions. Governments and RBI are expected to bring in easy and convenient way of sending and receiving money from anywhere, discounts and tax benefits, among other things, the authors had selected seven benefits which are largely acclaimed and subjected it to ranking (Table no.3)

Table 3. Respondents Perceived Benefits on Using Digital Modes For Payments

S.No	BENEFITS	Total score	Mean score	Rank
1	Convenience	9285.71	92.86	1
2	Discounts	4957.14	49.57	3
3	Tracking spending	5014.29	50.14	2
4	Budget discipline	3800.00	38.00	6
5	No risk	4814.29	48.14	4
6	User friendly	4328.57	43.29	5
7	Others	3028.57	30.29	7

Source: Computed

The outcome of our analysis on the perceived benefits of digital payments by the respondents indicate that the mean score ranged from 30.29 to 92.85. Convenience is preferred in the first place, which is inferred that the respondents want easy and carefree shopping. Tracking spending secured next higher mean score was ranked second. The users are happy with the SMS services as they

can retrieve any time later after spending to keep track of their spending or generate "mini statement" from nearby by ATM which would come handy on future spending's by them. Government of India in order to encourage digital transactions has announced many "Discounts" on fuels, insurance premiums etc., among its users and also select tax exemptions (eg. Vegetables) which has been ranked

third shows that respondents were attracted to “Discounts” while exercising their option in using digital modes for payment.

Factor Analysis on Respondents Perception On Digital Payments

Fourthly, Factor analysis is a multivariate statistical technique used to condense and simplify the set of large number of variables to smaller number of variables called factors. It identifies the underlying factors that determine the relationship between the observed variables and provides an empirical classification scheme of clustering of dimensions into groups called factors. To understand the

perception of the respondents a1 , a2 , a12 factor analysis is performed to group these responses on priority basis based on the strength of inter – correlation from them, called ‘Factors’ and cluster these statements in to the factors extracted and the results are presented.

Test of KMO and Bartlett’s test of Sphericity

The use of KMO and Bartlett’s test of Sphericity is primarily essential to measure sample adequacy for using Factor Analysis. The small value of KMO statistics indicate that the correlations between pair of variables cannot be explained by other variables and the Factor analysis may not be appropriate when the Cronbach’s Alpha is least.

Table 4. KMO and Bartlett’s Test

Kaiser-Meyer-Olkin	Measure of sample adequacy	0.704124
Bartlett’s test of Sphericity	Approx. Chi-square	595.3098
	DF	153
	Sig	0.000

Source: Computed

Table 5. Reliability statistics

Cronbach’s Alpha	N of items	N of variables
.7545	100	18

Source: Computed

The reliability of scales used in this study was calculated by Cronbach’s coefficient alpha and normally it ranges between 0 and 1. All constructs obtained an acceptable level of a coefficient alpha above .75, indicating the scales used in this study were reliable. Using eighteen dimensions, factor analysis was performed in order to group these dimensions on priority basis, based on the strength of inter-correlation between them and cluster these dimensions in to the Factors extracted and the results are presented. (Table 7)

Table 7. Factor Analysis on the Perception Dimensions on Digital Payments

S.NO	Perceptions/Dimensions	FACTORS						COMMUNALITY
		I	II	III	IV	V	VI	
1	I prefer to use Digital Payments that are good and safe	0.72	0.05	0.33	-0.12	0.12	0.22	0.70
2	It is easy for me to access anywhere	0.48	-0.07	0.61	-0.01	0.16	0.18	0.66
3	My perceived range of safe in using digital payments	0.75	-0.03	0.15	0.04	-0.12	0.15	0.63
4	There is no stable internet connection when using digital payments	-0.06	0.67	0.09	0.05	0.25	0.33	0.64
5	Trust on Digital Payments	0.28	0.51	0.30	0.29	-0.37	0.02	0.65
6	I believe in bank competence and integrity	0.72	0.22	-0.03	0.13	-0.23	0.10	0.64
7	Digital payments helps me to track my spends	0.72	0.22	0.03	0.22	-0.14	0.05	0.64
8	Digital payments tends to spend more	0.14	-0.03	0.03	0.04	-0.02	0.84	0.73

S.NO	Perceptions/Dimensions	FACTORS						COMMUNALITY
		I	II	III	IV	V	VI	
9	the cost involved is higher in using Digital Payments	-0.11	0.32	-0.05	0.75	0.04	0.16	0.72
10	I'm satisfied with the usage of digital payments	0.09	0.15	0.83	0.17	-0.11	-0.05	0.77
11	I need both financial and technical literacy for accessing digital payments	0.17	0.66	-0.09	0.15	-0.14	-0.13	0.53
12	I use digital payments to avoid cash transactions	-0.01	0.67	0.29	-0.18	0.17	0.10	0.60
13	I believe in Brands while using digital payments	0.21	0.64	-0.01	0.05	-0.01	-0.16	0.48
14	I believe the usage of digital payments meet the concept of cashless economy ?	0.85	0.01	-0.03	-0.14	0.08	-0.21	0.80
15	Digital payments comply with reduce black money in the economy	0.57	0.36	0.24	-0.05	0.27	-0.25	0.65
16	There are security issues in Digital Payments	-0.09	0.13	-0.01	0.22	0.84	-0.01	0.78
17	More awareness need to be created in both urban and rural area	0.16	-0.14	0.22	0.79	0.23	-0.10	0.78
18	Others	0.05	0.55	-0.37	0.25	0.39	-0.01	0.66
Eigen value		3.62	2.69	1.64	1.58	1.39	1.13	12.05
% of variance explained		20.12	14.94	9.10	8.80	7.72	6.28	66.96
Cum % of variance explained		20.12	35.06	44.16	52.96	60.68	66.96	

The factor analysis gives the rotated factor loadings, communalities, eigen values and the percentage of variance explained by the factors. Out of the 18 dimensions, 6 factors have been extracted and these 6 factors put together to explain the total variance of these dimensions to the extent of 66.96 per cent.

Table 8. Clustering of Responses and Their Factor Loadings

Factor	Dimensions	Rotated factor loadings
Bank Competence & Integrity(20.12%)	I prefer to use Digital Payments that are good and safe-1	0.72
	I perceive range of safety measures in using digital payments-3	0.75
	I believe in bank competence and integrity-6	0.72
	Digital payments helps me to track my spends-7	0.72
	I believe the usage of digital payments meet the concept of cashless economy -14	0.85
Technology and Literacy(14.94%)	Digital payments comply with reduce black money in the economy-15	0.57
	There is no stable internet connection when using digital payments-4	0.67
	Trust on Digital Payments -5	0.51
	I need both financial and technical literacy for accessing digital payments-11	0.66
	I use digital payments to avoid cash transactions-12	0.67
	I believe in Brands while using digital payments-13	0.64

Factor	Dimensions	Rotated factor loadings
	Others-18	0.55
Increased Accessibility(9.10%)	It is easy for me to access from anywhere-2	0.61
	I'm satisfied with the usage of digital payments-10	0.83
Promotions(8.80%)	The cost involved is higher in using Digital Payments-9	0.75
	More awareness need to be created in both urban and rural area-17	0.79
Risk Factor(7.72%)	There are security issues in Digital Payments-16	0.84
Tendency to Spend (6.28%)	Digital payments tends towards more spending -8	0.84

Six factors namely, Bank Competence and Integrity, Technology and Literacy, Satisfaction, Promotion, Risk and Tendency to Spend were identified as being maximum percentage variance accounted. Bank Competence & Integrity accounted for 20.12 percent, Technology & Literacy factor accounted for 14.94 per cent, Satisfaction factor accounts for 9.10 per cent, Promotion factor constituted 8.80 per cent, Risk at 7.72 per cent of the total variances. Finally, Tendency to Spend factor accounts for 6.28 per cent of the total variance. Thus the factor analysis condensed and simplified the eighteen dimensions and grouped into six factors explaining in total 66.96% of the variability of all the benefits gained.

Findings

This study is an attempt to measure the adaptability of digital modes for payment transactions by the Generation Z users. Our analysis reveal that, 95 percent of the users belong to the age group of 16 – 20 years, and a good representation of 52 percent were found to be females and about 48 per cent males. Among the demography educational qualifications, 78 percent of students are pursuing their undergraduate studies. We found that 88 percent of the respondents received below Rs.5000 and 12 per cent receive between Rs.5000 and Rs.10000. 86 percent of respondents use digital modes for their transactions. Thus, we observe that digital payments were prominent among Generation Z across age, gender, and education.

Our analysis revealed that need for internet connectivity as the most vulnerable for the users followed by security threats and incomplete transaction. The ranking confirms that even the students in the urban area has an issue of

internet connectivity, which is quintessential for engaging in digital transactions. Further, the respondents feel that there is a high amount of risk through security threats like fear of tampering with the passwords, server problems, fear of secrecy in one's identity and their bank balances are viewed as risk factors by the respondents.


Convenience, tracking spending, discounts and freebies are some of the attractive benefits liked by most of the users. The reliability of scales used in this study was calculated by Cronbach's coefficient alpha. All constructs obtained an acceptable level of a coefficient alpha above .75, indicating the scales used in this study were reliable.

Using eighteen dimensions factor analysis was performed in order to group these dimensions on priority basis, based on the strength of inter-correlation between them and cluster these dimensions in to the Factors extracted which together explains 66.96 per cent of the variability of all the benefits gained.

Scope for Future Research and Limitations

Our piece of work has an influence on the future research on digital payments. Researchers may further study the impact of digital payments among different segments of the society and among senior citizens. The sample used in this work is confined to users/students of University were the researchers work and studied. In addition, further research is encouraged in the area of Urban and Rural settings as India is poised to see a growth trajectory as digital payments are rapidly growing. Further studies can also be done on the latest launch of android applications and the extent of satisfactory usage across age groups along with the problems encountered by the users.

Managerial Implications

The Outcome of our research has definite implications for the various digital service providers, Banks and Governments indevising retention strategies through trusted relationship with digital users in the long run. It will also help the banks and other financial services industry to develop own branded E-wallet, which are customized in a way to the user requirements. The business and government should focus more on the continuous involvement of this Generation Z as they keep growing by age, so as to see a fully blown digital economy in India which is envisioned by our leaders of the nation in next few years down the line. All efforts need to be taken by Government, Banks and Merchant establishments to bridge the gap between Urban - Rural divide in terms of technology literacy, which is confirmed by (Sunil Sood, 2016), that about 70 per cent of over one billion Indians lives in rural areas, and only about 400 million have Internet access. Universal Internet access is a must to fulfil the government vision of digital India and the ambition of a less-cash economy. 

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ISSUES & CHALLENGES OF DBT IN FERTILIZERS INDUSTRIES AND ITS IMPACT ON SUBSIDY

Direct Benefit Transfer or DBT is an attempt to change the mechanism of transferring subsidies, launched by Government of India on 1 January 2013. This program aims to transfer subsidies directly to the people through their bank accounts. The ultimate

aim of DBT is to ensure that subsidies will be transferred to the entire citizen living below the poverty line in India.

Three types of DBT

- i) Direct Benefit Transfer from Govt. to intended beneficiary e.g. PAHAL, MNREGA
- ii) In-Kind benefit transfer from Govt. to intended beneficiary e.g., PDS, fertilizer.
- iii) Incentive payment in National program like NHM and others

DBT for Fertilizers Subsidy

India is basically an agrarian country. About 2/3rd of its population depends directly or indirectly on agriculture for its livelihood. Fertilizer is a vital input for agriculture. Fertilizers are subsidies product. So it is the responsibility of the Industry to make available subsidized fertilizers to the farmers. Under this scheme, Subsidy has been routed through fertilizers industries for administrative conveyance of the Government to the farmers. The benefit that is provided to the farmers and Fertilizer Companies will get reimbursed in the form of Subsidy from Government after submission of bill.

Before Implementation of DBT in Fertilizers Subsidy

The fertilizers Industry gets 95% subsidy for Urea after materials are received in districts and the balance amount is paid after acknowledgment made by retailers. The fertilizers Industry is facing difficulties due to delayed payment of Subsidy from Government and carried forward subsidy dues from every year to next years.



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Subsidy On Fertilizers

(Rs. In Crores)

Years	Subsidy Released		Total subsidy disbursed	Liabilities Carryover to next year
	Urea	P&K Fertilizers		
2010-11	24336	41500	65836	7216
2011-12	37760	36809	74569	22200
2012-13	40016	30576	70592	19170
2013-14	41835	29427	71280	40340.78
2014-15	54400.01	20667.30	75067.31	31830.77
2015-16	52400.00	21937.56	74337.56	43356

Source : Annual Report 2016-17 Department of Fertilizer

The Government has budgeted Rs. 70,000/- Crores for fertilizer subsidy in Current Financial Year.

Implementation stage of DBT in Fertilizers Subsidy

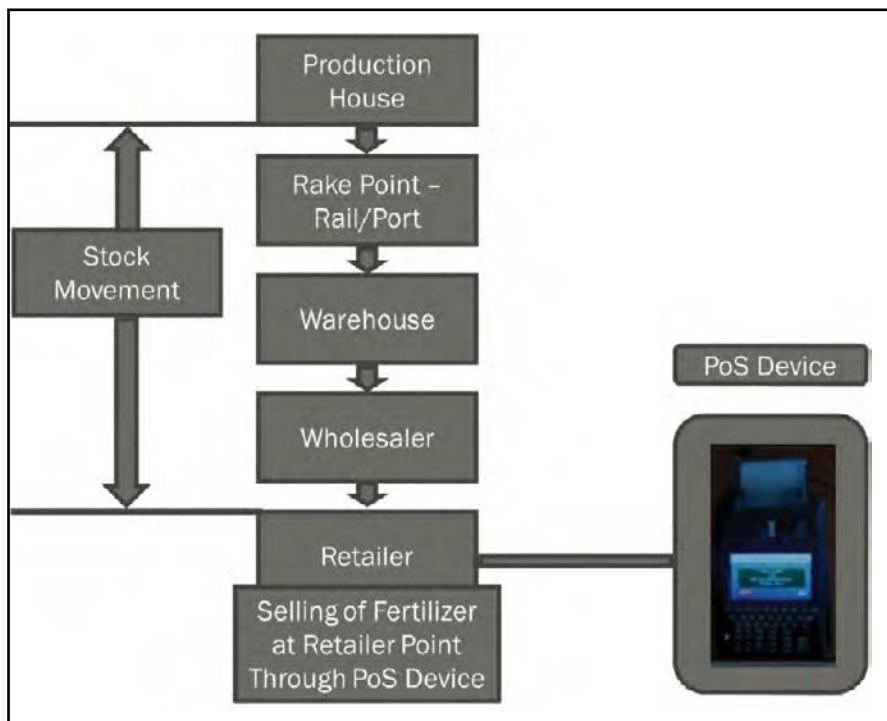
The Government has decided in 2016-17 to introduce Direct Benefit Transfer (DBT) system for fertilizer Subsidy payments. Under the purpose fertilizers DBT System, 100 % subsidy on fertilizers will be released to fertilizers Company on the basis of actual sales made by retailer to farmers.

Role of PoS in DBT

PoS Stands for Point of Sale. Sale of all subsidized

fertilizer to farmers will be made through Point of Sale (PoS). At the point of sale, the merchant would calculate the amount owed by the customer and indicate the amount, and may prepare an invoice for the customer (which may be a cash register printout), and indicate the options for the customer to make payment.

- To capture the information of Sale Transaction at the Retailer Point.
- Only authorised retailers can sell/purchase fertilizers through PoS by their mFMS credentials.



This device will ensure that only authenticated retailers/sub retailers can sell fertilizer to intended beneficiaries who have any of these 3 identification details like Aadhaar, Voter Identity Card and KCC.

Login Procedure through PoS in DBT

To start the transaction through PoS, retailer need to

- Retailer need to Login through PoS on daily basis.

Login through PoS with the following credentials:

- ① MFMS ID
- ② PIN
- ③ Aadhaar No. with Biometric Authentication

Government of India
Department of Fertilizers
Registration

User ID: 645234

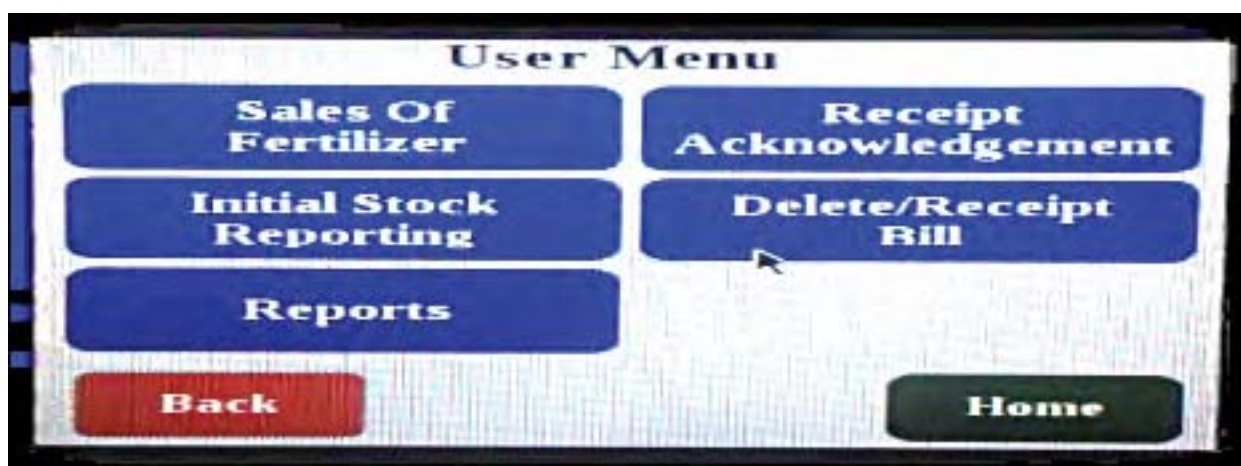
Pin: ****

Buttons: Quit, Next

Modules - PoS in DBT

- User
 - i. Sale of fertilizer
 - ii. Receipt Acknowledgement

- iii. Initial Stock Reporting
- iv. Modify Bill
- v. Reports



Sale of fertilizer: - To sale of fertilizer, retailer would feed the farmer's detail and will ensure that the buyer is authenticated with biometric. Without Authentication retailer cannot sell the fertilizer to buyer and vice versa. Buyer can be authenticated as per UIDAI guidelines.

Aadhaar No. of buyer.

Biometric Authentication

● **Receipt Acknowledgement:** - Retailers need to acknowledge the Stock received, by entering the quantity.

● Initial Stock Reporting :

- Initial Stock reporting:* - Initial Stock can be reported through PoS device in the presence of District/Block Agricultural Officer. As per the DoF deadline Retailer would have to feed the Initial Stock which is available in the presence of

District/Block Agricultural Officer

- Add more Products:* - Retailer can add products through Add more products of fertilizer.

● Modify Bill :

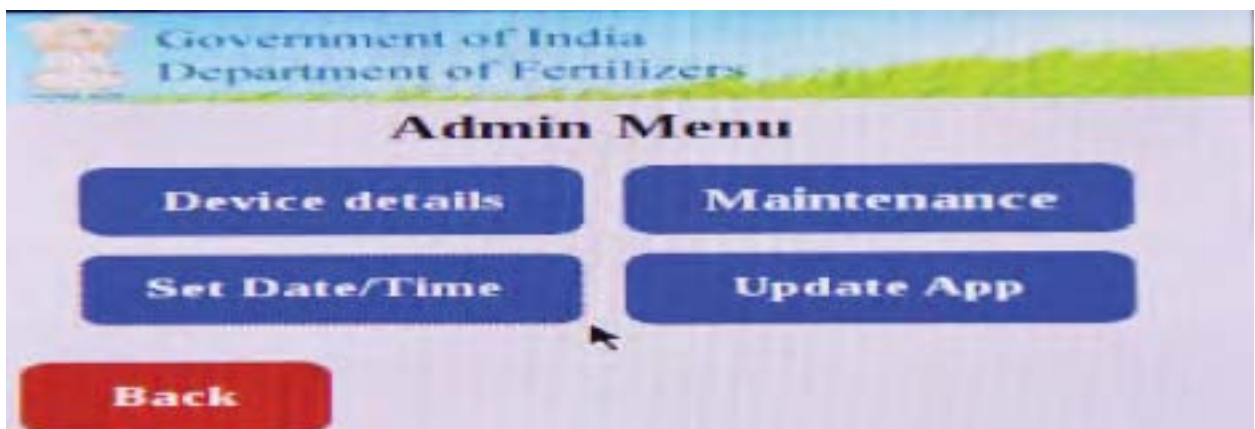
- Modify Today's Bill:* - Retailer can modify the buyer's bill through this option by authenticating the buyer.
- Cancel Today's Receipt:* - Retailer can cancel the received quantity by selecting the invoice with Aadhaar Authentication.



● Admin

- Device Details

- Maintenance
- Set date & Time
- Update App



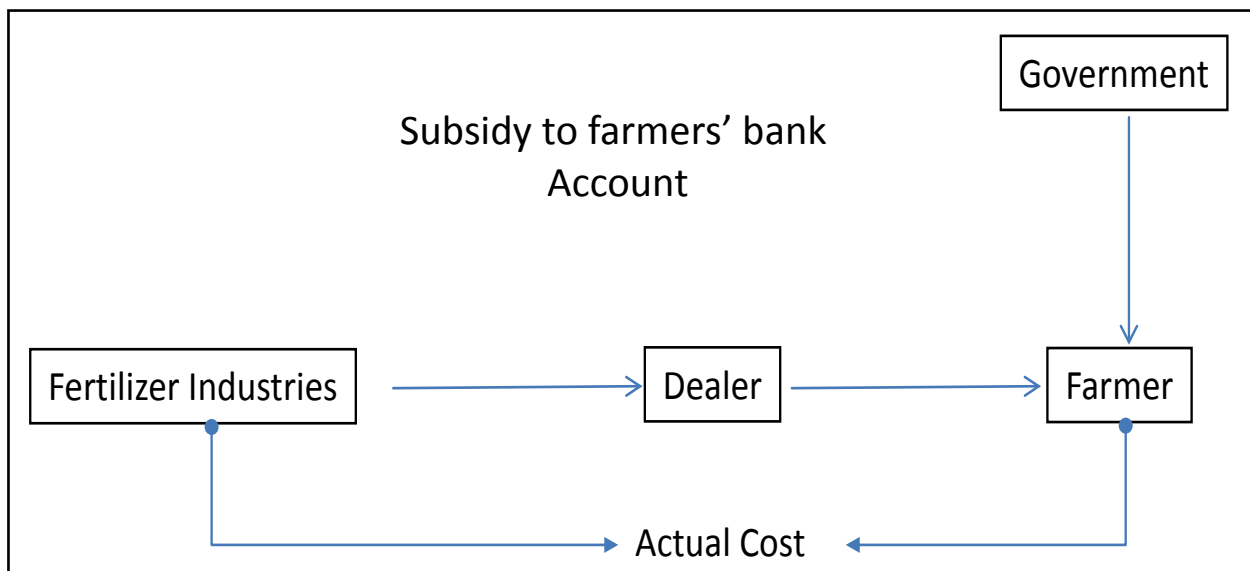
Initially Government of India is implementing the DBT Scheme for fertilizers in 16 selected districts as per details below: -

Sl.No.	District	State
1	Una	Himachal Pradesh
2	Kishanganj	Bihar
3	Hoshanganj	Madhya Pradesh
4	Karnal	Haryana
5	Kurukshetra	
6	Thrissur	Kerala
7	Nasik	Maharashtra
8	Raigarh	
9	Tumkur	Karnataka
10	Rangareddy	Telengana
11	Krishna	Andhra Pradesh
12	West Godavari	
13	Maldah	West Bengal
14	South 24 parganas	
15	Narmada	Gujarat
16	Pali	Rajasthan

Sources – Annual Report 2016-17 Department of Fertilizers

Accordingly Fertilizers Company can generate weekly subsidy in above pilot district under DBT Scheme. But this DBT is not true sense unlike other subsidies such as for cooking gas and kerosene or foodgrain where subsidy is capped for certain quantity per household or individual, the government will adopt the “no denial” policy in the case of fertiliser sale. This means anyone who presents his

Aadhaar number will get the fertilizer at subsidized rate. Although retailers may ask about the size of land for which fertilizers are being purchased so that the exact amount of fertilizers can be ascertained, it would not be recorded at the initial stage of the scheme. The main goal of DBT is subsidy transfer to farmer’s bank Account.



The Direct benefit transfer or DBT, as is properly known as, is introduced by the Government of India. It is an attempt through which the Government wanted to change the mechanism of transferring subsidy to its beneficiary. Its main aim is to transfer subsidies directly to the eligible beneficiaries' bank accounts. The digital transfer i.e. online transfer of bank accounts will reduce leakages, delays etc and ensure transparency. Now the Government of India has also included DBT on Fertilizers like LPG and Kerosene. Although The Challenges in operationalizing DBT in fertilizers has been manifold. First of all, the subsidy varies from product to product and in case of Urea from plant to plant. The problem also lies in the fact that there is no any particular standard or guidelines for identification of the beneficiary farmers and their entitlement.



Challenges in implementation of DBT

The present DBT schemes has many operational and technical issues such as network failure issues in POS & Biometric authentication problem as it is linked with Aadhar etc. These issues should be resolve through better coordination, technical support and prompt response from NIC to address the operational challenges encouraged at the field level.

Under the present scheme, the payment of subsidy is entirely dependent on accurate record of transaction with respect to beneficiaries. The error may lead to delay or non-payment of subsidy. Currently a retailer is not having insensitive to maintain this additional responsibility.

Under DBT Scheme, The truck challan system is impractical due to system should be captured each rake point on the details movements of fertilizers entering lorry number, name of driver, mobile number of drivers & name of owners etc. these copies of challan / Invoices should be printed at the rake point. There may be more than 700 rake points at present but they donot have enough infrastructure for installation of IT facilities. There main facus will be on handling fertilizers sufficiently. The system should be complete review & assess whether the system is practical.

Under the present scheme of DBT, Subsidy is paid on actual sale to the farmers. The quantity can take place at wholesaler / retailer level before actual sale. But the payment of Subsidies should not be linked to quality certification in B2 Performa.

Under the present scheme of DBT, the poi let project in selected district does not capture the details of

farmers bank accounts but it is required to be done so that duplication can be avoided later and subsidy can be directly transferred to the respective farmer's account when DBT is implemented in true sense. This is the overall aim of the scheme that is to be done effectively.

Conclusion

There is genuine need for implementation of DBT across the country. In DBT Scheme, The subsidy may be transfer on weekly basis to fertilizers Industry. The entire subsidy will be paid only through records of sales in POS machines by 1st June, 2017. But the budget for 2017-18 does not provide adequate funds to make subsidy fund to fertilizers industry. Finally the ultimate aim of DBT will be credited to farmer's bank accounts. But there should be clear guidelines to achieve the ultimate objective. **MA**

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DIGITAL DISRUPTIONS CHANGING THE DYNAMICS OF BUSINESS

A CASE OF SELECTED DIGITAL DISRUPTIONS



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Disruption is seen as the way ahead of economic growth and leading to long term job creation providing an opportunity for alternative career options which never existed beforehand. Disruption makes sure that the industries do not go forward without sweeping away the preexisting order and is also seen as a situation in which capitalism's pain and gain are inextricably linked. In this research paper an effort would be made in to understand the impact of how digital disruptions by a selected few companies have changed the dynamics of 5 different industry business models and how their strategies have changed the dynamics of those. Also an effort is made to analyze the road ahead for these companies considering the changing order of world business.



Innovation thinkers and researchers worldwide are keen on their focus on topics which become synonymous with the lives of people and their recent area of interest seems to be digital disruption. The phrase digital disruption is there almost everywhere and many business houses and entrepreneurs are making effort to ensure that they exploit the digital technology and embrace it to the extent that it will change the status quo of not only their companies but the entire industry. Erstwhile business models are replaced by digital disruptions which have enabled companies to not only change status quo but also have made existing businesses irrelevant. Technology enabled disruptions are rapidly increasing and causing a major shift of balance among the traditional models of doing business and digital models. The scope of this digital disruption extends to extent of the information technology and communication knowledge of the customers. The of digital technology has extended beyond the technology sector but the significance can be felt in technology enabled digital disruptions more precisely. Amazon in retail, Netflix in Movie viewing, Airbnb in hospitality are disruptions which have changed the dynamics of this industries in itself. Disruptions in digital are of more significance owing to the fact that they are not merely disruptive technologies which are the next level which dispatches an older technology rather they are far ahead of that. Digital disruptions have been witnessed across industries including financial services, retail, education, telecommunications and health care.

Digital disruptions come with both the opportunities as well as threats. The major area for concern among the companies is the fact that they should be clearly able to distinguish between the threats of how they invalidate a current business model and at the same time able to accept and embrace the opportunities which are an integral part of the disruptions. Some of the misconceptions and hype about digital disruptions exist in the market and they need to be understood by the business owners. The major misconception relating to digital disruptions include the fact that because it is digital geographies are not relevant anymore. But in reality, face to face communication with customers and stakeholders are highly regarded than using digital medium of communications. Another misconception about disruption is that digital is a substitute to existing ways of doing business rather than in reality digital technologies act as a complement and their main aim is not to make existing technology irrelevant rather than showing how to make things better. The most common misconception among all is that in a digital world the winner takes a majority share of the pie. He actual status is that there is no exclusivity which can be attained in a short term and it definitely takes a longer time for a company to develop a kind of exclusivity that companies like Apple and Facebook have been able to develop. He most common thing about digital disruptions is that the changes are so fast that companies have to adopt to these faster changes to stay relevant. But in reality a company which is following a calculated adoption of technology is not always about

fast adaptation rather than how comprehensive it finds a way to do business differently. On the contrary there are many opportunities available to companies due to this digital adoption. One of the most important opportunities is that monopolies cease to exist and not single company or a selected few companies can hold advantage rather even a smaller or a lesser known company can hold advantage due to the advent of technological advancements. Companies have an option of staying lean in order to exploit the market opportunities and gain a competitive advantage which ultimately might lead in to developing a brand equity capable of extricating the benefits in the long term. Leveraging innovations becomes the key as once a disruptive company will be looked upon seriously by both customers as well as competitors which lead in to better acceptance in the market. The most important opportunity that lies in disruptions is that it makes companies to look out for non customers who are expecting change than existing customers who are resisting change. With these basic understanding specifically about 'digital disruptions' this paper would try to analyze as to how digital disruptions are capable of changing the dynamics of businesses and how these disruptions have changed the status quo of many existing industries. This analysis would be done by considering a selected few companies who are known for their digital disruptions and how these companies have been able to change the existing business models.

Disruption

The concept of disruption has been included in academic literature in a highly regarded manner after the publication of 'Innovator's dilemma' by Clayton M Christenson (1997). In his research he introduced the disruption theory and more importantly the disruptive technology. In his understanding the disruption is all about the innovation which is not confined to technology but also in case of product, process as well as service. The term disruption has been coined from the Latin word 'disruptionem' meaning 'breaking' or 'apart'. Slowly as specific research progressed in the area the term disruption was getting replaced by 'disruptive innovation' (Yu and Hang, 2011). According to Christensen the word disruptive innovation means an innovation that is capable of transforming complicated and expensive products and services to an extent that they will become simple and affordable and being used by many rather than a chosen few (Robles, 2015).

Disruptive innovations also lead in to both technological and business model types (Markides, 2006). This leads to the understanding that the disruptive innovations happen

more than expected and requires a complete analysis of the reasons and causes for them to happen some of the basic characteristics which helps in identifying disruptions include smaller target markets with a lower gross margins and simpler products and services which may not look as attractive as the existing solutions which cater to same or similar kind of need (Robles, 2015). Michael Porter (1985) challenged the top-down view of disruptive innovation firsthand in his theory. His theory suggested that the only way through which companies can gain a competitive advantage is through innovation and by applying any one of the three 'generic strategies'. The first of them being that companies should involve in differentiating their products and services from competitors when they decide to demand a premium from the market the second approach as suggested by him is to optimize the products and services and offering them at a lower price. The third and penultimate strategy is a variation among the first two strategies wherein a company should focus on a single market's segment and be able to offer product and services at a lower cost or a higher value. Most critical aspect of this is that the strategies should not be mixed.

Christen (1997) argues on the basis of his research suggests that it is normal for the disruptors to work for from a bottom up approach. This often referred to as the second stage of the disruption theory suggests that it is common for disruptors to start as being less valuable and rich in comparison with what the present market supports and more importantly at a significantly better price. Blue ocean strategy (2005), helps in updating the bottom up vision of gradual disruption where companies ideally focus on the range of values which are proposed by different services and product categories (Kim & Mauboune, 2005).

The fourth and final stage of disruption more precisely digital disruption is a stage where in the companies align itself with the Big Bang disruption (Downes and Paul Nunes (2014). Their theory suggests the fact that the most innovative companies do not attack their competitors on only specified areas of business rather would be able to cover up the top, bottom and sides as well from all those sides at once. When a company take the path of providing services at a simultaneous manner with not only a few but all segment of customers then it does not fall in to the category of a disruptive innovation rather as devastating innovation (Downes and Paul Nunes (2014).

Research Objectives and methodology deployed:

The primary objectives of this research paper are as follows:

- To understand the concept of digital disruption and its impact on industries
- To analyze how digital disruptions have changed the business models in specific industries such as retail, hospitality, social media, travel and home video services.

The methodology deployed in this study is purely on the basis of secondary data collected from various sources including company reports, third party online industry reports and company websites. By using these data, the researcher is able to present how particular companies from an industry are being able to change the dynamics and existing business models prevalent in the entire industry. From humble beginnings to where they are today which is being established on the basis of facts and figures being presented on the basis of the secondary data this paper would be able to validate the research objectives.

In the following section disruptive innovation strategies of the below mentioned companies are presented to establish their impact on the industries in which they operate. One common thing among all these companies is that their success is majorly due to the digital disruptions that have changed the dynamics of the industry that they represent.

- UBER
- Facebook
- Airbnb
- Netflix
- Society One
- Alibaba

Uber

Uber's success stands as a testimony to how digital disruptions can totally change the business model prevailing in an industry and make it completely irrelevant. Uber is the world's biggest taxi aggregator without a single car being owned by itself and used in its fleet. What made Uber successful is the robust mobile app which has made the Uber app as the ubiquitous app in almost all the cities in the world that enables customers with the power to order a taxi on a tap of their smartphone's screens. Of course this success has not come that easy considering the backlash that Uber has to face even today with the

city councils and the taxi unions around the world where the accusations range from spoiling the business model to leading to unemployment yet Uber's revenue is steadily growing on a year on year basis. The present worth of Uber after all the leadership issues still remains to be around US\$50 billion which shows how Uber has been able to manage its leadership position. On the other hand, Uber has developed a Center of excellence where it employs around 300 people and developing them to be new generation work force capable of developing path breaking innovations. So in a long term Uber is poised to create for employment opportunities. Even though the traditional taxi companies and trade unions have a grudge against Uber and its disruptive policies what Uber has provided to individual drivers is an option to garner more business which they otherwise would not be able to generate if they would have done all the marketing for their car rentals themselves.

Facebook

From how it started as a dorm room project to connect socially by a student of Harvard University, Mark Zuckerberg's Facebook is worth almost 30 billion dollars and analysts expect it to be first trillion-dollar company. Facebook is a classic case of how a digital disruption can use the basic human need of interaction and being socially connected can be exploited as a viable business opportunity. What Facebook today is that it's the front page news paper to almost 2 billion people world wide. The most unique concept which makes Facebook thrive is that Facebook allows the users to create content and does not develop any content of its own and in that process has emerged as one of the World's biggest content development companies which literally produces zero content of its own. Facebook has provided an option for digital marketers to post advertisements at a much wider reach with one third of the cost required for traditional means of promotion. Its clever acquisition of WhatsApp messenger adds testimony to the business acumen of the top management who are developing strategies in the most innovative way possible.

Airbnb

With a simple business idea which could easily transform the hotel and accommodation business and started by a few friends who lived in an apartment of San Francisco, Airbnb is now the world's largest accommodation provider who has used the benefit of the digital technology and has emerged a clear winner in that segment by changing the dynamics of the industry altogether and giving the

traditional players in that business a run for their money. According to the Fortune Magazine (2017), Airbnb is poised to earn 3.5 Billion Us \$ by 2020. Some of the major reasons Airbnb has been successful because

- Fixed costs are traditionally planned to be relatively low
- Never fell off the ground even in tricky moments in business
- Speed at which the core members of the team being able to be understand and adopt to the business requirements.

Forbes in its article has been able to feel continued success of Airbnb is the value proposition that it offer.

Netflix

Within the span of a decade under operations, Netflix presently has 93 million customers worldwide and much has been discussed about the business model of Netflix. Netflix is an epitome of digital disruption including its capabilities being extended from being a humble video service provided to be a company capable of turning of the existing business model and has made the business being replacing the traditional linear TVs. This digital disruption has had a positive cascading effect where multiple companies and Sony are reaping the benefits of it. Netflix has created a culture of binge-watching. What Netflix has done is that the company has been able to shake the traditional strong hold of television viewing audience world wide and provided an alternative to the customer. Many businesses have shut off especially once as as slowly understood the fact that disruption has been done in that field and are so keen towards that addressing that immediately.

SocietyOne

The concept of digital disruptions is not only to confined to high tech industries but extended to financial services too. Carrying cash is now almost obsolete and many companies including a PayPal to the apply and Alipay the concept of lending from an entity to individual change the dynamics. The most unique among them is the Australia based SocietyOne, which encourages the peer to peer ending. It provides a technology based digital platform where savvy investors meet the credit worthy borrowers and connect with them. SocietyOne offers a high tech digital platform that is way too cheaper, faster and more efficient. There have been other companies such as Zopa from the UK and Funding Circle. These companies have created disruption in the financial services industry by

becoming some of the worlds' biggest loan providers and not being banks themselves. These unicorns have been successful by using the digital platforms and proved more efficient than the traditional systems.

Alibaba

Alibaba often referred to as China's answer to Amazon is a classic case of how digital disruption can change the dynamics in Business to business sales as well as Business to customers. Founded by a school teacher from China Jack Ma, Alibaba remains the worlds valuable retailer which has zero inventory in hand. In a recent flash sale happened last week the company generated a whopping US\$25 Billion dollars in a single day and 90% of the transactions were through its payment gateway. To add to its glory when it was coming out with its IPO in New York Stock exchange, Alibaba's stock was oversubscribed and it netted as high as \$25bn which is recorded as the biggest in the IPO history. What it effectively does is a seamless integrating of digital application to an altogether non-existent inventory through efficient tracking process which makes its business model work.

Hence with a sneak preview of these companies it may very well be understood that digital disruptions are here to stay and have always been beneficial for people who have been clever enough to understand them and more importantly implement them. **MA**

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RURAL INDIA: TRENDS AND ISSUES



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“
Since the independence and till present, India's economy is still a rural economy. It is rightly said that “rural India is the real India” [Iqbal 2017]. India cannot transform its economy unless and until rural economy is not developed. Hence, rural economy has to play a significant role in India's growth and development. Unfortunately, the trends are reverse of it. This paper analyses the different facets of rural India the real India.

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The Rural India is wholly agriculture based and it is of paramount significance for the country. This is because it has to maintain vital supply and demand links with the other Indian industries. Agriculture is the main stay of the Indian economy, as it constitutes the backbone of rural India which inhabitants more than 60% of total Indian population. The fertility of the soil has been enhanced for bringing economic and social prosperity in rural India in particular and India in general. Added to this, Rural India has been playing a vital and strategic role and contribution towards the overall economic and social growth of the country.

Rural India is so significant for the country that almost all the operations of the country's people bear its stamp. The most vital thing in regard to the rural India is that it is very big in size, contents and nature, having far reaching impact, consequences and implications for the Indian Economy. Rural India accounted for two-thirds of India's more than 125 crore of peoples, living in 6.4 lakh villages and earns nearly 17 per cent of the country's national income (GDP). Rural India contains diversity that cuts across geographic trends to agro-economic, cultural and social existence.

It is an undisputed fact that the rural India is comprised of many and larger variety of economic operations. First, agriculture is the largest segment of India's rural sector. Second, the major crops of rural sector are cereals, pulses, oilseeds fruits, vegetables etc. Third, rural sector is the main supplier of major food and food products, raw materials, and finished and semi-finished goods. Fourth, India's rural sector also includes nature based operations, which broadly consist of a separate sector and is also allied to agriculture, is forests. The main off-shoots are industrial wood and fuel wood of various types used for different purposes and in many ways. The other minor goods of forest are bamboos and canes, bidis leaves, lac etc. Today another segment of rural economy comprises of fishing, covering both inland fish and marine fish. The rural sector further depends upon village or rural industries. This component mostly covered traditional industries and is artisan. The products are quite many and include, khadi, leather etc. If India is to become a developed country then added emphasis has to be given to the rural sector, and villages have to be transformed into developed villages.

Today, the rural India and its subsequent productivity growth is predicated to a large extent upon the development of its 600-million strong rural population. Therefore, the agricultural policy of the Indian economy is drafted keeping

in mind the required needs of rural India since majority of the population lives in about 600,000 small villages. In India, agriculture accounts for almost 19% of Indian gross domestic products (GDP). The rural section of Indian population is primarily engaged with agriculture, directly or indirectly. The Ministry of Agriculture, the Ministry of Rural Infrastructure, and the Planning Commission of India are the main governing bodies that formulate and implements the policy related to rural economy in India and its subsequent development for the overall growth of the Indian economy.

Salient Feature

The salient features of India's rural sector are as under:-

- a) Increasing commercialization of agriculture;
- b) Rural sector under the impact of urbanism;
- c) Increasing institutional participation.

Harsh Facts

Nearly 60 per cent of India's population has been living in rural India and the same has just contributed 17 per cent country's GDP. India is home more than 300 million people living below the poverty line and India placed at 119 among 169 countries in the human development index. 50 per cent of country's population is financially excluded. Since many decades there has been the shortage of doctors in rural India, which constitutes for a population of over 600 million people. In the primary and community health centres, not more than 25,000 doctors are working, with a doctor population ratio for the rural India is 1:30,000 as compared with an all India ratio of 1:1,722, which itself is far too low. India's per capita income stood at US \$ 1,500. In terms of revenue, the share of rural FMCG market in India's total FMCG market accounted for 40 per cent.

India's foremost expert on farm economics and markets, Infosys Chair Professor at New Delhi-based ICRIER (Indian Council for Research on International Economic Relations) Ashok Gulati estimates that 49 per cent of India's workforce is employed in farming. And since rural families tend to be larger on an average, this would mean anything from 55-60 per cent of our population is farm-dependent. Now reverse the equation: 50 per cent of the total workforce generated just 17 per cent of the GDP and nearly 2/3 of India depending upon it. This means farmer earns less than a fourth of what others earned on an average. Then you add that this population has averaged 1.7 per cent growth

for three years against overall economy's 6 per cent. You get the picture of rural distress. It is pertinent to point out here that only 18 per cent total rural India population has computer knowledge.

Major Products of Rural India [Website]:

The major products which rural India provides for domestic as well export purpose are as under:

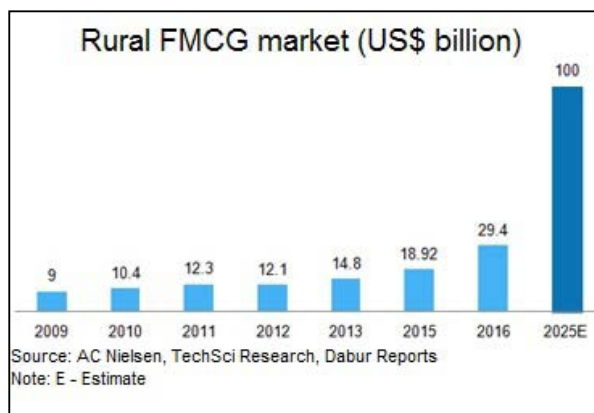
- 1) **Food grains;** Rice, Wheat, Pulses, Cereals, Corn, Maize, Rice Bran Extractions, Sorghum, Soy meal, Suji, Parmal, Lentils, Jowar, Bajra, Chick pea.
- 2) **Dry fruits and Nuts;** Cashew Kernels, Cashew Nut, Cashews, Almonds, Roasted Dry Fruits, Peanuts, Groundnut, Walnut Kernels, Walnuts, Indian Peanuts, HPS Groundnuts.
- 3) **Fruits;** Bananas, Beans, Cherry, Cucumbers, Dried Fruits, Dried Truffles, Carrots, Lemon, Mandarins, Mango steens, Meslin, Shallots, Apples, Asparagus, Grapes, Oranges, Gherkins, Turnips, Oranges, Papaya, Pineapple.
- 4) **Vegetables;** Potatoes, Bitter gourd, Stripe Gourd, Pumpkin, cauliflower, Cabbage, Tomato, Onion, Green Pepper, Drum Sticks, Lady's finger, Banana, Papaya, Spinach, Cucumber, Mushroom, Mushroom Spawn, Radiata.
- 5) **Seeds; Buds and Plantations and related goods;** Basil Seed, Cumin seeds, Dill Seed, Buds, Celery Seed, Hybrid Seeds, Sesame Seeds, Sesbania Seed, Sunflower Seeds, Mustard Seeds, Oil Seeds, Plant Products, Plantation, Plants, Psyllium Seed, Fennel Seed, Fenugreek Seed, Herb Seeds, Tamarind Seed, Vegetable Seeds.
- 6) **Spices:** Black Pepper, Chilli Powder, Chillies, Cinnamon, Cloves, Coriander Powder, Cumin, Curry Powders, Dry Ginger, Dry Red Chilly, Cardamom, Anise, Salt, Onion Powder, Pepper, Fenugreek, Clove, Ginger, Turmeric, Turmeric Powder.
- 7) **Tea and Coffee:** Black Tea, Coffee, Coffee Beans, Darjeeling Teas, Assam Teas, Instant Coffee, Leaf Coffee, Leaf Tea, Packaged Tea, Green Tea, CTC Teas.
- 8) **Tobacco and Tobacco Goods:** Beedi, Betel nut Leaves,

Betel nut, Bidi Leaves, Chewing Tobacco, Cigarettes, Arecanut, Jarda, Scented Tobacco, Smoking Tobacco, Snuff, Opium, Pan, Chatni, Pan Masala, Gutkazarda, Zafrani Zarda, Cotton, Rubber, Jute etc.

Rural FMCG Market

Rural FMCG market is on the rise [Chart 1]. In the year 2009, the total value of rural FMCG market was amounted to US \$ 9 billion and this figure has gone up to US \$ 24.9 billion in 2016, an increase of nearly 2.8 times. The FMCG segment of rural India and semi-urban India is projected at US \$ more than US \$ 100 billion by the end of 2025. The compound annual growth rate of rural FMCG market would be around 18 per cent from 2009 to 2025.

Chart 1



Rural Wages:

Rural wages are one of the significant issues of rural sector of India. India's Labour Bureau has recently released data relating to Wage Rate in Rural India (WRI) in November 2013 in respect of 12 agricultural operations and 13 non-agricultural activities. The story of rural wages is clearly one of declining agricultural wages and a marginal recovery in agricultural wages after 2016 [Himanshu 2017]. The most pertinent thing to be mentioned here that growth in wage rate has been the lowest during the last one and half decades. There is also a conformity that since 2014 rural demand collapsed.

According to the available statistics, since July 2016, real wages in the rural sector of India has gone down in all categories' of rural operations with an exception of plantation when we compare these with the data of May 2014. The trend in wage rising is happening due to the revival of rural demand because of good monsoon. This

trend continued till January 2017. As against January 2017, real wages for all operations in the rural areas have gone down except harvesting in July 2017. These trends show that that India's rural sector is facing a decline in rural demand and has added a fall in agricultural prices of goods.

Take other side of the coin i.e. nominal wages which are more under stress. The nominal wages has declined more sharply and by a wider margin after 2014. During 2008 and 2013 the nominal wage were at 15 per cent. The decline is large as 10 per cent i.e. from 15 per cent to 5 per cent per annum. The demonetization on 8th November 2016 has halted the recovery of rural demand in India's rural sector.

Demonetisation

This is most controversial and most burning issue in the context of rural sector/economy in particular and Indian economy in general. Since 8th November 2016, the economist in particular and other analysts in general are showing a mix reaction. Some are defending the demonetisation and others are treating it as economic disaster. One of the leading columnists Mr Bhalla is of the

opinion that at the time of demonetization the real wages were rising at 2 per cent per annum. Post demonetization, in July 2017, the rate of growth has more than double to near 5 per cent [Bhalla 2017]. On the other hand, Mr.Himanshu has opined that the argument in favour of demonetization brought improvement in rural wages on the basis of rise in come of some workers in the rural sector is misleading. According to him, the real wages halted the recovery of rural sector, which had begun after the 2016 monsoon .Added to this, demonetization only acted as a disruptor for the revival of the rural demand.

According to the study, Rural India is still reeling under demonetisation, and between 15 and 20 per cent of country's ATMs remain shut on an average day [Chitra 2017]. Rural India is basically cash dependent, has only more than 40 thousand as against the country's figure of more than 2 lakh ATM network which means just 18.2 per cent. On the other side of it, urban reas have 1.20 lakh ATMS and Semi-urban areas have more than 61 thousand [Table 1]. These trends have caused great disconnect to more 67 per cent of the people in the rural areas.

Table 1
Location Trends in ATMs in India 2017-11-21

Segment of Indian Economy	Number of ATMs
Metro cities	61,998
Urban Cities	58,593
Semi-urban Cities	61,174
Rural areas	40,998
Total	2,22,762

Source: The Times of India; New Delhi; November 18, 2017.

Bhalla VS Himanshu

These days there is a lot of debate on the real wages and columnists Mr. Bhall and Mr. Himanshu are arguing each other. Their arguments are based on different presumptions. Mr. Bhalla has presented data from December 2015 for unskilled (ploughman) and skilled (carpenter). On the other side, Mr. Himanshu presented data of ploughman (unskilled) and carpenter (carpenter) as unrepresentative of agriculture and non-agricultural occupations. Himanshu took in his consideration of level of real wages whereas Mr. Bhalla has taken into consideration growth of real wages. Hence, inferences drew will different on real wages [Table 1].

Table 1
Trends in Real wages Levels; Growth Rates and Acceleration

Year/Growth	Ploughman	General Agri-culture	Carpenter	General Non-Agriculture
2014 (Real Wage)	224	188	285	202
2015 (Real Wage Growth) January-July (y-o-y)	0	0.6	2.2	-0.8

Year/Growth	Ploughman	General Agri-culture	Carpenter	General Non-Agriculture
2016 (Real Wage Growth) January-July (y-o-y)	-1.6	-0.5	-0.5	-1.9
2017 (Real Wage Growth) January-July (y-o-y)	3	3.9	2.6	2.5
2016-17 (Acceleration)	4.6	4.4	3.1	4.4

Source: the Indian Express; New Delhi; October 14, 2017; P. 9.

Agenda for Agriculture Sector

The agricultural operations are the biggest segment of India's rural sector. Recently, NITI Aayog (Former Planning Commission) has released the "Three Year Action Agenda" (TYAA) for country's backbone i.e. agricultural sector. It is worthy to point out here that during the last three years of NDA Government India's agricultural sector recorded just 1.8 per cent growth rate having far reaching implications and impact on over performance of Indian economy. During the last three years, the NDA Government has formed many committees for the revival of country's agriculture and food sectors.

The recent TYAA has outlines four pillars for bringing desired level of revivalism in agri-food sectors. First, to enhance yield of the land and water per hectare; Second, to bring reforms in the existing agri-markerts on the given pattern of e-NAM; Third, carry out the needed reforms in tenancy laws which is the biggest problem in rural areas; and fourth; how to extend relief at the time of natural or manmade disaster?

Agricultural experts [Gulati & Hussain 2017] has rightly observed that the recently announced TYAA does not give any policy preference for agri-food sectors nor does it provide any action plan about the role of trade policy as well as the required reforms in the existing food system

and fertilizer subsidies which is the need of the hour.

Prof. Gulati and Hussain have rightly given an action plan based upon five basic issues.

The Government needs to bring improvement in regard to profitability of cultivation, through bring markets on the desired track;

The Government requires to make needed investment in water/irrigation which is the sin-quo-non for agricultural operations, keeping mind the per cent of micro-irrigation in total irrigated area in the selected countries of the world (Table 2);

The newly created scheme of ND Government namely-Direct Benefit Transfer (DBT) of food and fertilizer subsidies to the targeted beneficiaries' which could play catalytic role and contribution in releasing resources fro investment in land and water;

The Government must ensure at all cost that the Pradhan Mantri Fasal Bima Yojana (PMFBY) the compensation must go to the beneficiary in time or on time; and

The Government must come forward for 'free up land lease market'.

Table 2

% of Micro-irrigation in total irrigated Area in Selected Countries of the World

Country	% of the Total Irrigated Area
Israel (2004)	99.1
Brazil (203)	77.6
South Africa (2012)	76.9
Spain (2015)	70.5
Russia (2012)	60.7
USA (2010)	58.0

Country	% of the Total Irrigated Area
France (2011)	52.9
Italy (2013)	34.5
World	100.0
Iran (2015)	16.4
China (2015)	13.7
India (2017)	13.1

Source: The Indian Express; New Delhi; September 25, 2017; P. 9

Gujarat Model

In a recent article [Gulati & Roy 2017], has advocated Gujarat Model of agricultural to implement in the entire country. The Gujarat Model basically depended upon the provision of best technologies to the farmers and thereafter gives them much needed access to markets to ensure better prices for their crops.

According to agricultural economists, India needs at least 4 per cent of growth rate in agricultural sector to sustain the rural India in particular and Indian economy in general, which Indian economy attained during 2013-14 when the UPA Government was in power. During the three years of NDA Government, growth rate in country's agricultural sector has declined considerably at 1.8 per cent which is a

matter of concern for all.

Under the Gujarat Model, the Gujarat had recorded an all time high figure of 8 per cent per annum from 2002-03 to 2013-14 which was much more than all India growth rate in agriculture at 3.3 per cent. It was expected that Gujarat Model will extended to other state of the country. But unfortunately, it did not happen because of one reason or the other. The marginal growth of just 1.8 per cent during the last three years was attributed to deficient rain in major producing states of the country in the year 2014-15 and 2015-16. Although during 2016-17, country witnessed bumper harvest; yet country's farmers suffered a lot due to crash in agri-prices.

Table 3
India's Agricultural Growth under UPA and NDA Governments

Period	% Growth rates
2004-05 to 2013-14 (10 Years) UPA	3.7
2011—12 to 2013-15 (# years) UPA	4.0
2014-15 to 2016-17 (3 Years) NDA	1.8

Source: the Indian Express; New Delhi; October 9, 2017. P. 9

Data set out in table 3 reveal that India's agricultural growth was much better during the rule of UPA Government in the year 2013-14, the growth rate of Indian agriculture was 4 per cent which India needs to achieve every year in order to sustain rural India in particular and Indian economy in general. Unfortunately, under the NDA Government agricultural growth rate went down considerably and touched a lowest growth rate of 1.8 per cent affecting rural India in big way and Indian economy too.

During the period 2003 and 2014, Gujarat state registered the highest growth rate as high as 8 per cent,

followed by MP, Rajasthan, Jharkhand, Chhattisgarh, Bihar, Maharashtra, Hp, AP, Karnataka, and Haryana. These states were having higher growth rate as compared to all India growth rate. The remaining sates such as Uttar hand, Tamil Nadu, Jammu and Kashmir, Uttar Pradesh, Assam, West Bengal, Punjab and Kerala were recorded less than all India growth rate in Agriculture. It is being predicted that the estimate for 2017-18 may not be higher and may be around 2 per cent. This will result into keeping more pressure on Rural economy in particular and Indian economy journal.

Indian rural sector including agriculture is in doldrums and required immediate action plan for boosting the agricultural food. For this, the Government must make considerable investment in irrigation (lowest Table 1); power and rural roads. It must be kept in mind the country's economy will not reap the fruits of growth and development without ensuring higher growth rates in agriculture and allied sectors of the economy especially in rural sector.

Another View Point

It is believed that during the last more than three years, there has not been any significant improvement in the rural household. Today, India has a population of 130 crore and there are 24.7 crore household in the country. Out of this figure the rural households stood at 16.8 crore and the figure for urban households is 7.9 crore. Hence, with an average of 4.8 people residing the rural households, the number of peoples living in the rural households will be nearly 81 crore [Kapil 2017]. Keeping in mind the country's population of 130 crore. 92 per cent of those living in rural households nearly 78.2 per cent are earning less than Rs. 10,000 per month. On the other side of it, nearly 38 crore persons are living in urban households, 26.4 per cent or just more than 10 crore living below the poverty line.

Strategy

Indian government has to develop and implement a strategy for speedy growth of rural India which the real India. The following are the pillars of strategy:-

1. To inculcate farm education among villagers,
2. To undertake modernization at the large scale for cultivation operations,
3. To undertake research for providing better inputs to rural India;
4. To bring awareness among the farmers about the benefits and mode of payment for insurance,
5. To create farm market for getting better price for farm produces;
6. To provide quality healthcare treatment at doorstep of villagers.
7. Concrete policy is to be implemented for the attainment of 100 per cent rural

8. Electrification;
9. Extending 100 per cent banking services in rural India; and
10. To create effective and meaningful linkages between villagers and villages. **MA**

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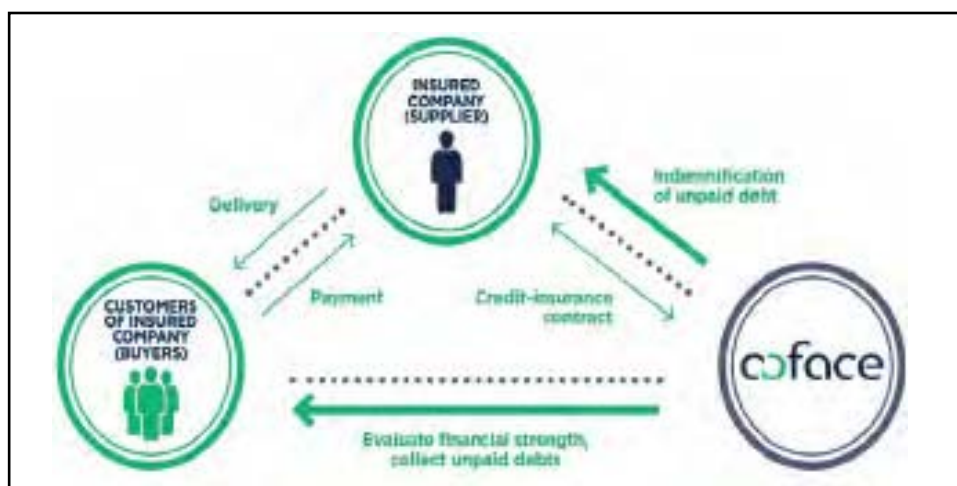
Each and every corporate in its life span must have experienced the stress upon its buyer/s defaulting on its payments obligation, be it exports or domestic. The pain is much severe when the defaulted buyer is consuming a high percentage of total outstanding exposure of the corporate.

There is a solution to this unforeseen and high impact

event which shields the corporate from a loss upon default by the buyer due to any financial reasons.

What is credit insurance

It is a risk management tool that provides the companies with protection against failure of its customers to pay their debts.(Insurance of Receivables)



Trade credit insurance can include a component of political risk insurance which is offered by the same insurers to insure the risk of non-payment by foreign buyers due to currency issues, political unrest, expropriation etc. Trade credit insurance usually covers a portfolio of buyers and pays an agreed percentage of an invoice or receivable that remains unpaid as a result of protracted default, insolvency or bankruptcy.

Why to Buy Credit Insurance

Before actually deciding to go for the options available, it is advisable to identify clearly “why” the need of credit insurance and how it will benefit the company.

Risk of unexpected default persists even with customers believed to be “as strong as a Bank”. Credit insurance is a great tool to remove this probable uncertain hit and cap company’s unsecured exposure by mitigating it.

It is not uncommon for customers to request more credit – either by way of increased exposure or longer payment terms - than one is comfortable giving them, or to have new customers you aren’t familiar with or venture into an uncharted territory having no sound knowledge about the political environment (likes of South Africa and Venezuela).

Unfortunately, payment history is not a valid predictor of default. Credit insurance is means to offer competitive open credit terms without taking incremental risk. It supports additional sales that would not have been made otherwise to safely expand global reach of an organisation or to push domestic sales.

Structuring the Program

Policy premium is a generally considered as primary and logical parameter to examine. The final premium that the insurer charges will be priced based on a number of factors including: insurable turnover, industry performance, past bad debts, customer quality, and risk participation levels in the policy.

Risk participation or retention assures insurance companies that the insured has a vested interest in continuing to manage its exposure in prudent manner, while also allowing to minimize the premium payable. Deductible generally will be either in form of each and every loss or aggregate loss, which needs to be accounted for before claim payments start.

One broad rule while arriving at structuring the policy, excessive use of deductible certainly can reduce the premium outflow but can reduce the policy benefit at

the time of claims. Start the credit insurance policy with covering what is maximum possible to actually understand the policy parameters and can tweak the structure on the renewal.

The Application Process

Care should be taken in terms of what information, which has to be technically correct, is being provided in the proposal form, which is most important aspect of credit insurance policy. The policy will be quoted based on the information submitted in the proposal form, and this will become part of the contract as an underlying representation in the agreement between insured and the insurer.

Evaluating Offers

In India insurance co issuing credit insurance policy are generally backed by global reinsurers, who do not have licenses to directly issue the policy due to IRDA regulations. Each Reinsurer has its own risk appetites, underwriting philosophies and contract wordings which are carried forward by the insurance co. while issuing the policy to insured. While the coverage is fundamentally similar, Reinsurer widely differs in how they structure and administrate their policies. One should take time to understand how each of them differs on key parameters where the policy needs to be customized taking into account - special terms of sale, industry practise, seasonality, etc..

From a perspective as a buyer of CI policy, it is imperative to evaluate the Reinsurer's and their offers based on the following categories-

- its reputation in settlement of claims,
- contract wording,
- policy terms and
- proposed coverage
- average acceptance ratio on the buyer limits requests

Among other things it is important to understand what are the claim filing deadlines and obligations or reporting requirements of the program which is different for each Reinsurer and extremely critical. Not to mention the claims and recovery processes of each insurance co. are different.

Comparing premiums and deductibles and/or coinsurance has to be done in light of what the carriers are offering on coverage limits and policy conditions. Credit insurance is not a commodity product that can be shopped on price alone. The goal is to find the program that best matches the needs on how the policy should work under the given business constraints and yet provide the necessary coverage.

Implementing and Managing the Program

On an ongoing basis one should monitor buyer exposures in the event where there is a need to add new accounts or increase the coverage limits on existing buyers. Also current overdue position of receivables should be monitored to check whether they need to be reported or extension on reporting to be sought. As a healthy practise it is advisable to maintain a summary of the obligations and the key policy requirements like claim filing time frames or overdue reporting and periodical declarations.

Credit insurance is a incredible financial and risk management tool. With the right partner, insured can enjoy protection on one of company's largest assets, safely expand sales, improve borrowing arrangements and take advantage of expert credit guidance.

Recent IRDA guidelines allows the banks to take the assignment of the policy as loss payee for getting the proceeds of claims from the insurance co. Banks have also accepted TCI policy as security and reduced the collaterals attached to the working capital programs or reduced the lending rates due to strong risk mitigation tool attached to the debtors.

Credit management offers business a competitive advantage in today's global uncertain times. It is much more than just an off the shelf product and can do wonders if used in correct manner. Corporates that recognise the potential will be the ones that will win in long run.

MA

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Eastern India Regional Council

The Institute of Cost Accountants of India- South Orissa Chapter



The Chapter organized a seminar on Goods and service Tax (GST) and Students' Members' Meet 2017 on January

7, 2018 and CMA Binod Bihari Nayak, chairman of the chapter, Dr. R.C.C. Patnaik, Hon'ble MLA, Brahmapur, chief guest, CMA Niranjana Mishra, Chairman, Taxation Committee & Council Member, guest of honour, CMA P.K. Chakrabarty, Chairman, EIRC, Guest of Honour and CMA Ch. Venkata Ramana, Secretary and Treasurer, EIRC Guest of Honour were the eminent dignitaries of the seminar. CMA Mrityunjaya Acharjee, the keynote speaker eloquently spoke on Goods & Service Tax (GST) about different concepts of goods and services, the applicabilities, the amendments etc in details.

The Institute of Cost Accountants of India- Siliguri Gangtok Chapter



The Chapter and the Tax Research Department of the Institute organized a joint seminar on 'GST-Implementation & Challenges' on 23rd December, 2017 and Shri Sujit Kr. Mallick, IRS, Joint Commissioner, Custom, CGST & Central Excise, Siliguri inaugurated the seminar as chief guest and Shri Chaitanya De Sarkar, Additional Commissioner, Commercial Taxes, West Bengal, Dr. Asim Kumar Mukhopadhyay, Principal, Siliguri Commerce College, CMA Niranjana Mishra, Chairman, Taxation Committee of the Institute, CMA Mrityunjay Acharjee, Senior Vice President (Internal Audit & Taxation), M/s Balmer, Lawrie & Co Ltd, Kolkata, CMA Arnab Chakraborty, Senior Director, Studies, Admin & HR of the Institute and CMA Debargya Das, chairman of the chapter were the eminent dignitaries of the seminar.

Northern India Regional Council

The Institute of Cost Accountants of India -Jaipur Chapter



The Chapter organised a seminar on “Income Tax Section 44AD & 44AB” and “Returns, Refund & Compliances

under GST Act” at its premises on December 16, 2017. In his welcome address CMA Rakesh Yadav told that in the present perspective it is very essential for professionals to be updated on Income Tax Section 44AD and 44AB as well as on provisions related to GST. In the first technical session, CA Anoop Bhatia, leading practitioner explained about the Section 44AD and 44AB of Income Tax Act and latest changes in Income Tax Act. In the second technical session CMA Aayush Gupta explained in detail about Returns, Refund and Compliances under GST Act. He said that CMAs can play a vital role in the field of GST and there are tremendous opportunities for CMAs in this field.

Southern India Regional Council

The Institute of Cost Accountants of India-Coimbatore Chapter



The Chapter conducted career counselling programmes at Coimbatore on December 2017. Chairperson CMA Meena Ramji and Vice-Chairman, CMA S. Subbaraman explained about the CMA Course and its prospects. The Chapter inaugurated the new oral coaching classes and the students, the chairperson and secretary explained about the various aspects of preparation for examination to achieve success.

The Institute of Cost Accountants of India-Trivandrum Chapter



The Chapter conducted a professional development programme titled 'Marketing Strategies for CMAs' on December 10, 2017 and the main speaker was Dr Alphonse Louis Earayil, IPS, Former Director General of Police, Kerala and he had explained lucidly about the importance of marketing strategies.

The Institute of Cost Accountants of India-Cochin Chapter



The Chapter observed the Swachhta Pakhwada and delivered a brief about the importance of cleanliness and also distributed necessary items to students and the management of the school.

Western India Regional Council

The Institute of Cost Accountants of India-Ahmedabad Chapter



The Chapter organized CE Program on GST – Current Scenario & Issues on 7th December 2017 at its office. Faculty CA Praveen Maheshwari submitted his presentation on the subject. CMA Haren P Bhatt, secretary of the chapter gave the vote of thanks to the speakers and participant members on behalf of the chapter.

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



The Chapter conducted career counselling program on 15th December 2017 at Pune. The Chapter conducted a seminar on 'Insolvency and Bankruptcy Code, 2016 – Impact on Corporate Sectors' on 16th December 2017 at CMA Bhawan, Pimpri, Pune. CMA L D Pawar, RCM & Vice-Chairman, WIRC briefly focused on major legal and commercial implications of the code. The Chapter observed Swatchhata Pakhawada Day on December 30, 2017 at its premises.



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PRESS RELEASE

New Delhi

1st January, 2018



CA. (Dr.) Suvod Kumar Karn, Past President, The Institute of Chartered Accountants of Nepal (ICAN) has been appointed as President of South Asian Federation of Accountants (SAFA) for the year 2018

CA. (Dr.) Suvod Kumar Karn, FCA is a fellow member of the Institute of Chartered Accountants of Nepal, Institute of Chartered Accountants of India and CMA Sri Lanka. He is also a fellow member of Commonwealth Association of Accountants.

CA. (Dr.) Karn was also the Chairman of Committee to study Fiscal regimes and other statutory requirements of business in SAARC countries and a member of Small and Medium Practices Committee of SAFA. He was also on the Board of SAFA for the period 2010-13 and 2016.

He was also the financial advisor Water Tariff Fixation Board – Govt. of Nepal from 2008-10 and on the Board of Securities Board of Nepal (SEBON) from 2008-09. He is also the Chairman of Nepal Accounting Technicians Board.

CA. (Dr.) Karn has been in public practice for over 24 years and has specialisation in the area of internal and statutory audits.



CMA (Dr.) P V S Jagan Mohan Rao, Central Council Member of the Institute of Cost Accountants of India has been appointed as Vice-President of SAFA for the year 2018.

CMA (Dr.) P V S Jagan Mohan Rao is currently the member of Committee on Professional Accountants in Business of International Federation of Accountants (IFAC) and the Chairman of the Committee on Professional Accountants in Business of South Asian Federation of Accountants (SAFA). He was the National President of the Institute of Company Secretaries of India (ICSI), Member of the National Advisory Committee on Accounting Standards (NACAS), Government of India, Member of Accounting Standards Board of SEBI, Disciplinary Committee of Hyderabad Stock Exchange and Member of Company Law Committee and Committee on Banking & Insurance of Federation of AP Chambers of Commerce and Industry.

CMA (Dr.) Rao has experience of over 30 years in Finance, Secretarial, Legal and General Management and headed the departments. He has held the positions as Director (Finance), CFO, Vice President (Finance) & Company Secretary and worked with several organizations including Nagarjuna Construction Company Ltd and Karvy Consultant Ltd.

About SAFA

South Asian Federation of Accountants (SAFA) is an Apex Body of the South Asian Association for Regional Co-operation (SAARC) and an Acknowledged Accountancy Grouping of IFAC. SAFA comprises of ten accountancy bodies in South-Asian Region namely India, Pakistan, Bangladesh, Sri Lanka, Nepal and Afghanistan. Bhutan and Maldives, where no accountancy body exists, has been given an Observer status. SAFA has undertaken the leadership role in providing a new direction to the accountancy profession within the region and this Apex body has nearly 375,000 members affiliated with its member bodies. The Institute of Chartered Accountants of India is one of the founder members of SAFA and also hosts its Permanent Secretariat at New Delhi.

www.icmai.in



THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

Statutory Body under an Act of Parliament

58th NATIONAL COST CONVENTION 2018

Theme

**New India 2022:
Role of CMAs from Intent to Action**



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Shri Venkaiah Naidu
Hon'ble Vice President of India

March 16 - 17, 2018
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