



**NATIONAL APEX CHAMBER**

# **PHD CHAMBER JOURNAL OF IDEAS AND INNOVATIONS**



*"Facilitating innovative minds to express their ideas for the growth and development of **Aatma Nirbhar Bharat**"*

September, 2020

**PHD CHAMBER OF COMMERCE AND INDUSTRY**

PHD House 4/2 Siri Institutional Area, August Kranti Marg, New Delhi - 110016

Phone: 91-11-49545454 | Fax: 91-11-26855450, 26863135

Email: [research@phdcci.in](mailto:research@phdcci.in) | Website: [www.phdcci.in](http://www.phdcci.in)

## EDITORIAL MESSAGE



**Dr D K Aggarwal**  
**President**

India is land of boundless opportunities endowed with huge demographic dividend. The dynamic and vibrant economic reforms undertaken by the Government are instrumental in achieving conducive environment for trade, industry and economy. The vision of Hon'ble Prime Minister to be vocal for local and make India self-reliant is crucial at this juncture to attain USD 5 trillion economy by 2025. Going ahead, with a strong focus on promoting indigenisation of industry, the importance of new ideas, culture of fostering innovation and developing skills increases manifold. At this backdrop, PHD Chamber Journal of Ideas and Innovations is initiated to provide a platform to innovative minds to express their ideas for the growth and development of Aatma Nirbhar Bharat. I am sanguine that the Journal will contribute significantly through new ideas and innovative insights from various segments of economy.



**Shri Sanjay Aggarwal**  
**Sr. Vice President**

Entrepreneurship and innovation have been supported by several flagship initiatives of the Government for nurturing research and development and generate employment opportunities for the growing young workforce. A robust ecosystem to promote innovation and translate innovative ideas into larger economic and social benefits amid the dynamic global environment is critical at this juncture. Hence, harnessing and facilitating innovative minds through a platform of PHD Chamber Journal of Ideas and Innovations will play a crucial role to promote innovative minds to come up with thought provoking ideas for the growth and development of Aatma Nirbhar Bharat. I wish the Journal will accomplish its objective with a great success.



**Shri Pradeep Multani**  
**Vice President**

New ideas and innovations lead to higher productivity and boost economic growth of an economy. In the present dynamic environment, our country needs new entrepreneurs who can innovate, lead, inspire and reach out beyond the limits to create systems that hold immense potential for holistic development. Further, the ability of an economy and its businesses to generate and imbibe innovative changes has now become a key component of its prosperity and growth. With this backdrop, PHD Chamber Journal of Ideas and Innovations provide right platform to encourage young minds to contribution to growth of the country. I am confident that the Journal will come up with flourishing ideas for achieving Aatma Nirbhar Bharat.



**Shri Saurabh Sanyal**  
**Secretary General**

Building AtmaNirbhar Bharat with a mission to stimulate growth across the sectors of economy is highly encouraging. Attracting investments, infrastructure development and encouraging innovation are of paramount importance at this juncture. Therefore, PHD Chamber Journal of Ideas and Innovations has been initiated with the objective to encourage thoughtful ideas and innovations to contribute to the growth story of our country. I would like to acknowledge and compliment the large number of submissions received in response to the call for research notes/innovative ideas/ articles for the Journal.



**Dr S P Sharma**  
Chief Economist  
PHD Chamber of  
Commerce and Industry

This platform was exclusively built with a notion to promote youth thoughts on policy making. It's a stage for the young population to express their ideas on progressive India. A nation can boost their welfare with insightful planning and an enthusiastic youth. India's youth wish for an economic and social difference. Citizens and consumers are feeling informed and empowered to demand as well as drive change. To quote the Prime Minister Shri Narendra Modi, a youth is one who works towards his future goals, unmindful of the past. In developing and promising countries like India, the youth of the Nation can contribute to its growth. They can use their education to battle problems that outbreak the country. This platform will not only help the young & the bright Indians to present their thoughts but also help policymakers understand the mindset of the progressive India.



**Dr Niti Bhasin**  
Associate Professor  
Department of Commerce  
Delhi School of Economics  
University of Delhi

I extend my heartiest congratulations to PHDCCI and Dr. S.P. Sharma for starting the PHD Chamber Journal of Ideas & Innovation which would provide a fertile ground for people from different domains to share their perspectives on issues of importance to the Indian economy. In these testing times when the world is faced with an unprecedented crisis in the form of Covid pandemic, the need for innovative ideas and new ways of doing things has never been more imperative. At the present moment, India is striving to draw opportunities out of the challenges that have emerged and moving towards a vision of self-reliant India. I am sure that this journal would contribute towards this worthy goal by bringing together useful ideas, perspectives and insights that could facilitate policy making. Wishing success to the entire team!



**Dr Seema Joshi**  
Associate Professor  
of Economics, Department  
of Commerce, Kirori Mal  
College University of Delhi

It is indeed commendable that amidst the challenges of COVID-19 pandemic a unique initiative of the PHD Chamber of Commerce and industry has come to the fore in the form of The Journal of Ideas and Innovation. As has been very rightly pointed out by the UN Secretary-General, "The world cannot afford a lost generation of youth, their lives set back by Covid-19 and their voices stifled by a lack of participation". By providing a creative and democratic platform for academicians, researchers and other stakeholders in the society, PHD Chamber has been giving them an opportunity to voice their ideas and opinions, 'enabling them to unlock their innovative spirit' and 'empowering innovation wherever it sparks'.



**Ms Laxmi Devi**  
Assistant Professor  
Gargi College, University  
of Delhi

It is indeed a pleasure to be the part of the editorial team of the journal "PHD Chamber Journal of Ideas and Innovations" dedicated to facilitate innovative and creative minds to put up their views and creative ideas to encourage "AatmaNirbhar Bharat" mission and contribute to the journey of making the country a self-reliant nation. The recent global breakdown, supply chain and logistic issues have raised crucial concerns about existing trade and industrial structures and elevated the uttermost need of self-resilience for survival & stability. Innovative ideas containing a problem solving approach are indispensable to survive the existing situation and the "PHD Chamber Journal of Ideas and Innovations" provides an apt platform for creative minds to put forward their thought and ideas to support the mission. I hope the journal contributes to the existing knowledge and proves to be helpful for policy makers and various other stakeholders.





## Table of Contents

1. Focus on rural demand will stimulate the journey towards Atmanirbhar Bharat from the grassroot level .....	5
2. Development of Social Infrastructure must go hand in hand with physical Infrastructure .....	8
3. Ease of Doing Business: An indispensable requirement for rejuvenating India's growth and making it AtmaNirbhar .....	11
4. Role of Foreign Trade Policy (FTP) in facilitating exporters & importers amid COVID-19 pandemic.....	14
5. Improvement in Global Innovation Index and Ease of Doing Business Rankings will lead to Atmanirbhar Bharat.....	18
6. Atmanirbhar Bharat: India's Response to Changing Global Dynamics .....	21
7. Mask- The New Normal and the unreached Society .....	23
8. Five Green Strategies for Sustainable Revival of Growth .....	25
9. Understanding Growth Linkages between World Trade and GDP .....	28
10. Teacher as a learning strategist in Covid times.....	32
11. Application of Data Science in Marketing.....	34
12. Thermal Stabilization and Volume Reduction of Sludge (THESVORES): Ground breaking technology that will change the way of sludge handing globally.....	36
13. Reducing power consumption .....	38
14. The act of nature to the modernised problems .....	40
15. iUmrah - A Virtual Pilgrimage by Proxy - The New Normal.....	42
16. To Develop a Model for Contact Lenses Recommendation.....	45
17. Adverse drug reactions (adr) of anticancer drugs in oncology department.....	51
18. Moving Towards Skill Oriented Education in India.....	53
19. Strengthening Access to Hygiene & Empowering Ladies through Income (SAHELI).....	55
20. Aatma Nirbhar Bharat: Does Not Mean Trade Isolation.....	58
21. Development of Square Hole Drilling Tool and Method using Conventional Drilling Machine...	61
22. India towards self-reliant economy.....	63
23. Re-engineering the Education System in India .....	66
24. Leveraging COVID-19 crisis to boost Indian Economy .....	68
25. Are we ready to fight with Power Rangers in logistics Industry?.....	71
26. Formal sector employment: a need to expand it. ....	73
27. Impact of the Pandemic on Education Sector .....	75
28. True Leaders Create More Leaders Not Followers!.....	77
29. Strengthening Indo-Japan Economic Ties .....	80
30. Housing the country .....	82
31. The path of corona virus - an expeditious view .....	86
32. Pandemic (covid-19) and our life style .....	88
33. Healthism Savings Card – A simple solution for non claimable healthcare expenses.....	90



**Dr D K Aggarwal**

**President, PHD Chamber of Commerce and Industry**

*Dr. D. K. Aggarwal is the Chairman & Managing Director of SMC Investments and Advisors Ltd., CMD of SMC Capitals Ltd., Chairman of SMC Comtrade Ltd., Chairman of SMC Real Estate Advisors Pvt. Ltd. and Director of SMC Comex International DMCC (Dubai). With over two decades of experience in the securities market & financial services, Dr Aggarwal is well known for his financial acumen and has been conferred with numerous prestigious leadership awards including Honorary doctorate degree from YESBUD University, Zambia for his outstanding contribution towards financial services, SME Leader Award by Institute of Chartered Accountants of India, 'Dare to Dream Awards'-Financial Services 2018 for Extraordinary Entrepreneurial Spirit by Zee Business, Distinguished Entrepreneurship Award 2015 by PHD Chamber, International Gold Star Millennium Award by Citizens Integration Peace Society, Outstanding National Citizens Award by National Citizen Guild, Rashtriya Udhog Rattan Award by All India Achievers Conference, IPE-BFSI Leader Award by Asian Confederation of Businesses for setting an example of a Role Model and Exemplary Leader and Brand Slam Leadership Award by CMO Asia. He is also a member of many professional bodies such as Commodities Participants Association of India, BSE, MSEI, NCDEX, MCX, etc.*

## **1. Focus on rural demand will stimulate the journey towards Atmanirbhar Bharat from the grassroot level**

Our Hon'ble Prime Minister Shri Narendra Modi ji has laid the vision of building a Self-Reliant (AtmaNirbhar) India based on the five pillars of economy, infrastructure, technology-driven system, vibrant demography and demand. Making the country self-reliant is only way to make 21st century belong to India.

This timely measure of self-reliant India can be successfully achieved by focusing on grassroots growth, infrastructure development and administrative overhaul to facilitate ease of doing business. Among others pillars, demand, principally the rural demand has a very significant role to play in making India AtmaNirbhar. Also, revival and rejuvenation of rural demand becomes all the way more crucial amid dynamic times created by COVID-19.

Boost in rural demand scenario have multiplier effects on the other sectors of the economy including production, investments, manufacturing, services sector, among others. Pick up in rural demand and social infrastructure would lead to spur in demand of manufacturing goods, employment generation, increase in rural income and growth in manufacturing sector in the coming times and support the India's journey towards being Atma Nirbhar.

The growing severity of the impact caused by the widespread pandemic COVID-19 on economy, trade and industry is a matter of deep concern. The extended lockdown of over two months have led to the domestic supply chain disruptions and lack of demand in the economy. This has resulted in impacting the overall consumption trend and consumer spending in the country. The outbreak of pandemic COVID-19 has slowed the pace of economic activities and made a profound impact on the demand scenario in urban as well as rural areas.



Having said that the Government of India's decision to exit the Nationwide lockdown in a graded manner and gradual unlocking of the economic activities has led to the emergence of green shoots in the economy. Also, the rural demand has been observing a revival amid positive agriculture sector outlook and support of the Government's recent pro-active measures. However, urgent attention still is required at this juncture to address the dampened rural demand as it constitutes a large part of the economy and overall consumption across product categories in the country.

Unstable and declining demand discourages many businesses from re-starting operations thereby leading to a more harmful impact on trade and industry in the coming times. Hence, it becomes crucial that the consumption expenditure by the Government should be enhanced to revive the demand scenario in the economy particularly in rural areas.

Further, the focus should be on ensuring provision of hassle free disbursements of loans vis-à-vis enhanced liquidity to MSMEs in rural sector, reducing the lending rate by all the banks, increasing working capital requirement of the businesses, one-time restructuring of loans, promoting rural entrepreneurship, among others. These reform measures would go a long way to help trade and industry particularly in rural segment to revive their growth trajectory in COVID-19 and post COVID-19 scenario.

The relief measures announced by the Government in its mega relief package of Rs 20 lakh crore for rural economy and farmers including provision of liquidity support, Rs 30,000 crore additional emergency working capital fund through NABARD, Rs 2 lakh crore of concessional credit to farmers to effectively undertake post-harvest rabi produce and preparatory work for kharif crops is highly appreciable.

Going ahead, engines of reviving economic growth and demand in the economy as well as make India Atmanirbhar is suggested as under:

Increasing public investments by the government. The public investments in infrastructure and affordable housing would create demand for commodities such as steel and cement among others to boost the private investments. The increase in investments would lead to an increase in the economic activity, jobs would be created and there would be creation of demand in the economy.

Increased private investments at all level would lead to an improvement in the supply chain and demand for labour would increase. With the increase in demand for labour, there would be creation of employment opportunities thereby leading to increased demand for goods and services in the economy.

Private consumption i.e the increased demand for goods would boost private consumption thereby leading to more investments by the private sector in the economy. The economic activity would pick up and there would be further creation of employment opportunities.

Bolstering Manufacturing is a major engine of growth as it would not only create employment opportunities for the growing population but would also cater to the domestic as well as foreign demand thereby spurring economic growth and improving standards of living of people. As the manufacturing sector would pick up pace, there would be increased investments, both from domestic and foreign players. The increased manufacturing activity would also boost exports from the country, going forward.



Revitalizing Exports- The exports will not only balance the external sector but will also become a major growth vehicle in the economy and also increase capex in the economy. The growth in exports would improve the trade balance and increase the competitiveness of the country vis-a-vis global economy in the coming times.

Apart from rejuvenating demand, the measures such as large-scale investments in infrastructure, increased investments in innovation and research and development (R&D), massive skill development, among others are necessary to ensure long-term competitiveness of industry and enhance the image of Brand India globally. Further, to become AatmaNirbhar Bharat, it is now imperative for our country to reduce import content and divert trade towards friendly nations while focusing on enhancing indigenous production and domestic capacity building.

I am optimistic that these reform measures would go a long way to mitigate the daunting impact of pandemic COVID-19 on trade and industry, rejuvenate demand, especially in the rural areas and will help in making 'Atmanirbhar Bharat'.



**Mr Sanjay Aggarwal**  
**Senior Vice President, PHD Chamber of Commerce and Industry**

*Mr. Sanjay Aggarwal is the Chairman & CEO of Paramount Cables Group. Mr. Aggarwal has been an integral part of the growth story of Paramount Cables from a Rs. 1 crore small scale industrial unit to one of the largest cable manufacturers in India. As Vice-President of TEMA- Telecom Equipment Manufacturers Association, Mr Aggarwal spearheaded many campaigns for the Indian telecom manufacturing industry which resulted in Central Government making legislative changes necessary for the survival of the telecom industry. Mr. Aggarwal has also been the recipient of numerous prestigious awards over the past 34 years which include the National Small Industry Award 1984 bestowed by the President of India, Entrepreneur of the Year Award 1994 by All India Manufacturers Organization, Niryat Shree Award 2008-09 by FIEO, numerous Star Exporter Awards by EEPC over the years and Major Donor Award 2017 by Rotary Foundation of Rotary International and many more.*

## **2. Development of Social Infrastructure must go hand in hand with physical Infrastructure**

Infrastructure is an enabler for growth for any economy. Creation of new and upgrading existing infrastructure is the key to raise an economy's competitiveness and achieve higher growth trajectories and it will support India's journey towards being self-reliant. To attain the target of USD 5 trillion economy size by 2025, and meet the aspirations of the citizens of India, creating sound social and physical infrastructure is the key to strengthen India's competitiveness in the coming times.

It will specially be critical for the success of the Aatma Nirbhar Bharat vision as manufacturing competitiveness critically depends on infrastructure. Improved infrastructure capacities also create efficiency gains through improved logistics and networks, which would improve the competitiveness of the economy. This can help kick in a virtuous cycle of higher investments, growth and employment generation in the economy.

Some of the upcoming challenges at global level which provides a significant need to focus on development of infrastructure are as follows:

70% of the global population will be living in urban centres, some in cities of more than 100 million people, infrastructure will determine their quality of life

As more people demand greater levels of energy to fuel consumption, there are challenges of supply, sufficiency and sustainability

Fresh water. 20% of the population lacks clean drinking water and 40% lacks basic sanitation. As this global divide becomes even more acute, it will drive radical changes in awareness and behaviour around water usage and management, and the energy intensity of our consumption. Hence, Infrastructure is vital in addressing this challenge

Social infrastructure and the question of how we collectively and as individuals will finance the cost of more people living longer and having fewer children





Therefore, India needs to enhance its institutions and its infrastructure significantly if it is to realise its long-term growth potential.

### **National Infrastructure Pipeline**

It is highly appreciable that Government's National Infrastructure Pipeline (NIP) is a first-of-its-kind initiative to focus on building world-class infrastructure across the country and improve the quality of life for all citizens. India's Infrastructure Vision 2025 focuses on Meeting aspirations, propelling growth and improving ease of living.

Mega public spending/investments are need of the hour especially social infrastructure and affordable housing as it would create demand for commodities such as steel and cement among others to boost the private investments. The allocation of Rs 102 lakh crore made for the National Infrastructure Pipeline for next five years (FY2020 to FY2025) needs to be effectively implemented, as increased spending in infrastructure will give a multiplier effect and rejuvenate the aggregate demand in the economy and mitigate the daunting impact of COVID-19 on the growth trajectory of the country.

The capital expenditure in infrastructure sectors in India during the FY2020 to FY2025, reveal that the social sector expenditure constitutes 3.5% of the total Rs 102 lakh crore allocated under NIP. Of this, the spending on health and education from Rs 102 lakh crore is 3.2%. This share needs to be enhanced to ensure availability of basic facilities at the grassroots level for the overall socio-economic development in the coming times.

In terms of social infrastructure, India is on the lower echelons of development of social infrastructure in the world economic system. The social spending of the economies such as Brazil, China and Russia is higher than that of India. India ranks poorly on the various indicators of health and education.

In the area of skill development, majority of the population is involved in elementary skills while on the judicial front, India has a very low judges to population ratio in comparison to many countries across the world such as Germany and Russia. An efficient judicial system is essential for reducing crime rates in the country. In India, judiciary and the government need to put collaborative effort to plug the gaps in the management of the police, prisons, forensics and the filling up of vacancies.

In the global rankings of the justice mechanism of different countries of the world, India stood at 68th rank and countries like Germany, UK, Singapore stood at 6, 12 and 13 rank in 2019.

The current health expenditure per-capita is highest for the USA at US\$ 10246 and the lowest for India US\$ 69.3. Germany has the highest number (4.2) of physicians per 1000 people followed by Russia. India on the other hand has the lowest number (0.9) of physicians per 1000 people.

The government expenditure on education as percentage of GDP is the highest for Brazil 6.2% and India spends 3.8% of its GDP on education. The spending on education per-capita is highest in the US with spending of USD 2752 and the lowest for India at USD 55.

Skill development is a significant driver to address poverty reduction by improving employability and inclusive growth. It facilitates a cycle of high productivity, increased employment opportunities, income growth and development. As compared to other developed and developing countries, India



has a unique window of opportunity for another 20-25 years called the “demographic advantage”. Therefore, development of social Infrastructure must go hand in hand with physical Infrastructure at this juncture to revive demand, investments and economic growth amid pandemic COVID-19 crisis. This will help in achieving the Vision of our Hon’ble Prime Minister of Atmanirbhar Bharat.

The proactive and dynamic reform measures by the Government would go a long way to strengthen social and physical development in the country. Going ahead, an effective models for co-working between the public and private sectors need to be devised. Government and businesses must make vital strategic decisions now, and implement effective strategies to reap fruitful outcomes. Innovations, such as Internet of Things, will make infrastructure more efficient and sustainable in the coming times. Therefore, digital infrastructure should also be promoted and strengthened to enhance India’s competitiveness and contribute in the vision of being self-reliant.



**Mr Pradeep Multani**  
**Vice President, PHD Chamber of Commerce and Industry**

*Mr. Pradeep Multani, Chairman, Multani Pharmaceuticals Limited has more than 40 years of experience in the field of Ayurvedic & Unani Medicines. With a degree in law, he holds different positions in different Industry bodies and associations such as Co-chairman, AYUSH Committee, FICCI, Hon. General Secretary of Association of Manufacturers of Ayurvedic Medicines and President of Delhi Factory Owners Federation and also in multiple committees at the Ministry of AYUSH, GOI. He is an active member of associations such as Indian Pharmaceuticals Association, Okhla Industries Association Phase 1 & 2, Bhagwanpur Industries Association, Haridwar, U.K, Pharmaceutical Manufacturing Association and New Delhi Traders Association. A strong believer of performing Corporate Social Responsibilities voluntarily and supporting multiple NGOs like Action for Autism, he has also contributed to the Prime Minister's National Relief Fund & Armed Forces Flag Day Fund, Kendriya Sainik Board and the Ministry of Defense.*

### **3. Ease of Doing Business: An indispensable requirement for rejuvenating India's growth and making it AtmaNirbhar**

Ease of doing business is crucial for the overall growth and development of trade and industry as it attracts foreign investments and provides a considerable boost to the domestic businesses. Therefore, a conducive business environment is crucial for starting and operating a business in any economy.

The Government has given major thrust to ease of doing business, undertaken plethora of economic and business reforms and has worked aggressively to ensure that India moves up on the rankings of ease of doing business of the World Bank. India has been continuously improving in World Bank's Ease of Doing Business Rankings and has jumped by 79 spots from 142nd rank in 2015 to 63rd rank in 2020 among 190 economies.

In the post-COVID scenario, there would be noticeable changes in the global supply-chains and India should focus on capturing a significant share in the world economic system. At this juncture, as various foreign companies are looking at India for investments, there is a need to sustain this momentum of implementing reforms both at the Centre and State levels to make India one of the best destinations to do business. Thus, keeping in view the rapidly changing global trade and investment dynamics amid pandemic COVID-19, a more conducive policy environment for trade and industry would be crucial. This will help in attracting large chunk of foreign investments and boost industrial activities and create tremendous employment opportunities for the growing work force in India.

Although, procedural requirements have been reduced and the communication between Government departments has become transparent and hassle free, however, the cost aspect of some of the parameters still needs to be relaxed further. There are various approvals, documentation requirements and multiple visits to departments that consume a significant amount of time and initial investment in a business. A few suggestions to boost ease of doing business in the country are as follows:



Cost competitiveness of our businesses enterprises should be enhanced and a level playing field should be created. The Government should focus on further reducing the cost of doing business in the country including:

**Cost of Capital:** The banking sector should transmit the full effect of recent cut in repo rate and lower the lending rates immediately to reduce the cost of capital for the businesses.

**Cost of Compliances:** Due to a number of mandatory regulatory compliances, there is a cascading effect on the overall cost of doing business. Simplification of compliances would help in making the policy environment more industry friendly, allow firms to focus on their core business and keep compliance cost low.

**Cost of Logistics:** The Government should further improve the export logistics infrastructure; remove bottlenecks at ports to reduce costs and improve ease of doing business for industry.

**Cost of Land and Availability of Land:** The procedure to acquire land should be free from complex and costly procedural bottlenecks.

**Cost of Power/ energy:** For electricity bills of Centre and State, clause of minimum fixed charges should be waived and Government should charge on the basis of actual charges.

**Cost of Labor:** The Government should focus on a skilled and high productivity manpower base to increase the competitiveness of firms in the international and domestic market.

The golden opportunity, which has arisen because of many companies from Japan, USA, Korea and Europe want to shift their manufacturing facilities out of China. India should use this opportunity by offering Red Carpet and providing the most favourable terms for setting up manufacturing bases in India.

To attract significant Foreign Direct Investments (FDI) and make India Atma Nirbhar, a level playing field should be created for the industry and production linked benefits should be provided to increase the overall competitiveness of the industry.

It is suggested that there should be only one time registration in every department along with one window service and approval within 5 working days OR deemed approved / permitted after 5 days. Thus, Single Window Service should be set up to give clearance for all the permissions to ensure faster and efficient action and decision-making along with contract enforceability and other legal reforms; flexible labour laws; and reforms like digitizing land records and giving land for long term lease.

**Bureaucrats as Enablers:** It is suggested that inspection of industries should only be conducted by giving 15 days advance notice to the Industry (in writing). This should be done ONLY with the approval of the Commissioner of the concerned Department. For discrepancies, if any, considerable time should be given to rectify the same. This will go a long way in supporting business sentiments with the approach of all Government authorities as enablers.

**Labour productivity:** It is suggested that wages to labour should be linked to productivity. Also, fixed term employment should be permitted and effectively implemented across all the States. Presently, labour has no or minimal accountability.





Presence of multiple departments for approvals or licenses for various industrial projects and business expansion tends to be cumbersome and time consuming. Instead of 41 Departments for getting various approvals, there should be only 5 to 7 Departments along with one time registration and no licensing. It is suggested that approval of two of the highest authorities in the Department should be made necessary for raiding/ inspecting manufacturers or service providers, along with 7 days prior notice.

Prosperity of businesses facilitates creation of jobs and generation of incomes which improves the country's position in socioeconomic and business rankings in global charts. At this juncture, it becomes important to further reduce the cost of doing business in India and attract significant foreign investments and achieve the goal set by our Hon'ble Prime Minister Shri Narendra Modi ji of a USD 5 trillion economy by 2024-25. This will play an indispensable role in making India self-reliant in the coming times.



**Mr. Saurabh Sanyal**

**Secretary General, PHD Chamber of Commerce and Industry**

*Mr. Sanyal took over as the new Secretary General on April 6, 2020 and this is his second stint serving as the Secretary General of the esteemed organization, where he served from May 2013 till October 2018.*

*Prior to taking over as the Secretary General of PHD Chamber, Mr. Sanyal was serving as Deputy Secretary General at ASSOCHAM from February 2019 till March 2020.*

*Mr. Saurabh Sanyal is a retired (Col) professional with over 39 years of diverse experience in Armed forces (Corps of Engineers) and the corporate sector. Mr Sanyal is a Mechanical Engineer and holds a post graduate degree from IIT Madras along with MSc. in Disaster Mitigation and MBA from IMT Gaziabad.*

*He has participated in many Counter Insurgency Operations- Rakshak, Parakram (Kargill), Bajrang and Rhino at J&K and Northeast. He is the recipient of the Chief of the Army Staff Commendation in 1994 while serving at Kupwara (J&K) and again in 2005 at Tezpur (Assam) for distinguished Service of the highest order. He is a keen sportsman and an avid golfer.*

*During his last stint with PHD Chamber, Mr. Sanyal, took various progressive measures for the growth of the Chamber and established new departments and committees to strengthen the policy advocacy role only at Centre and State level but also at international level such as he organized delegations to enhance India's trade and investments trajectory towards East Asian economies, African and Middle East countries.*

#### **4. Role of Foreign Trade Policy (FTP) in facilitating exporters & importers amid COVID-19 pandemic**

The COVID-19 pandemic has spread across the world with alarming speed, infecting millions and bringing severe disruptions in economic activity as countries imposed local lockdowns and adopted other preventive measures to halt the spread of the virus. The Indian economy too underwent a nationwide lockdown, thereby, impacting normal economic activities across all sectors. Amid the spread of pandemic COVID-19 and the graded exit from the lockdown in phases, exporters & importers have been particularly hard hit due to stuck consignments, rising port charges and demurrages, loss of orders, unfulfilled obligations, delay in payments, and inability to complete the necessary paperwork and compliances with statutory procedures.

During the past few months, Government of India has announced several measures to support economy and industry in these extremely difficult times. In view of the unprecedented current situation arising out of COVID-19, the Ministry of Commerce and Industry has provided a number of relaxations / extensions of various compliance deadlines etc. to address pandemic COVID-19 related hardships of exporters. One of the most significant announcements is the extension of the existing Foreign Trade Policy (FTP), 2015-20 and Handbook of Procedures (HBP) by another one year i.e., up to 31st March, 2021.

Facilitation under Foreign Trade Policy, 2015-20 by Directorate General of Foreign Trade (DGFT)

S.No.	Particulars	Relaxations
1	Merchandise Exports from India Scheme (MEIS)	Shipping bills for which the Let Export Order date falls between 1st February 2019 and 31st May 2019, the application for MEIS claim can be filed within a period of 15 months from the Let Export Order instead of 12 months.  Continuation of MEIS available only up to 31.12.2020
2	Service Exports from India Scheme (SEIS)	The last date of filing Service Exports from India Scheme for 2018-19 stands extended to 31.12.2020  Relaxation has also been provided by DGFT for applicable late cuts for SEIS/MEIS applications and the validity of scrips issued under Chapter 3 of FTP which are expiring between 01.03.2020 to 30.06.2020 has been extended up to 30.09.2020.
3	Advance Authorizations and EPCG Authorizations	Validity period for making imports under various duty free import authorizations (AA/DFIA/EPCG) expiring between 01.02.2020 and 31.07.2020, has been allowed automatic extension for another six months from the date of expiry, without requirement of obtaining such endorsement on these authorizations.  Where ever the period to make export is expiring between 01.02.2020 and 31.07.2020 under various authorizations, automatic extension in the export obligation period is allowed for another six months from the date of expiry, without payment of any composition fee.
4	Rebate of State and Central Taxes and Levies (RoSCTL)	The last date for filing RoSCTL claims for export shipments between 07.03.2019 to 31.12.2019 of 30th June, 2020, has been extended to 31st December 2020.

Some of the other relief measures announced under FTP 2015-20 to support trade and industry to mitigate the daunting impact of COVID-19 include:

Validity period of the Status Holder Certificates is extended. This will enable the Status Holders to continue to avail the specified facilities/benefits.

Exemption from payment of Integrated Goods and Services Tax (IGST) and Compensation Cess on the imports made under Advance/EPCG Authorisations and by Export Oriented Units (EOUs) etc. has been extended up to 31.03.2021.



The scheme for providing “Transport Marketing Assistance on the specified Agricultural Products” is further extended for one year.

Validity period of Letter of Permission/ Letter of Intent as granted to EOUs, units in Software Technology Parks (STPs)/ Electronic Hardware Technology Parks (EHTPs)/ Bio-Technology Parks (BTPs) is further extended up to 31st December, 2020.

Last date of filing applications for refund of Terminal Excise Duty (TED)/Drawback, Transport and Marketing Assistance has been extended.

Extension in time has been allowed for filing various Reports/Returns etc. under various provisions of the FTP.

There are both opportunities and challenges in the changed world due to the impact of pandemic COVID-19 on economy, trade and industry. The immediate relief measures undertaken by the Government including setting up of DGFT helpdesk, extension of FTP, extension of the pre & post shipment credit for exports by RBI, among others are highly encouraging.

More importantly, the extension of current FTP ensures continuity of existing schemes for exporters and importers as they strive to overcome the stress imposed due to business disruptions amid COVID-19 pandemic. The extension of various benefits and relaxations would provide certainty to trade & industry on export benefits and ensure a smooth transition to the recently approved Remission of Duties and Taxes on Exported Products (RoDTEP) scheme.

At this juncture, trade facilitation measures should be further promoted by the Government to enhance the cost competitiveness of our exporters especially MSMEs to create a level playing field in the country. Also, efforts should be made for the speedy implementation of the Remission of Duties or Taxes on Export Product (RoDTEP) scheme and provision of additional MEIS benefit for the labour-intensive sectors will significantly boost the competitiveness of our exporters. Improved cost competitiveness of our businesses will go a long way to promote indigenous production and reduce imports and lead to better balance of foreign trade.

Going forward, a more robust and all inclusive Foreign Trade Policy spanning across different areas should be framed when the current policy expires in 2021. The post-COVID FTP should encompass the evolving opportunities and challenges in India’s foreign trade including services and lay out a consolidated roadmap regarding domestic policies and capacity building. Furthermore, the Government should consider reviewing and further simplifying the framework/ provisions under the various export promotion schemes for deriving the maximum export benefits and to make exporters competitive to achieve a higher export growth trajectory. This would help in establishing a stable and predictable foreign trade regime for positioning India as a global manufacturing and exporting hub in the coming times.



# PHD RESEARCH BUREAU

An Information Hub for Businesses, Professionals,  
Policymakers, Researchers and Students



NATIONAL APEX CHAMBER

## Subscribe and gain from the analytical reports & notes of PHD Research Bureau

Subscribers of PHD Research Bureau would receive:

- Daily developments on International, National and Sub-National arena (More than 50 in a month)
- Weekly updates on economy, trade and industry
- Monthly Periodicals / Newsletters on International, National and Sub-National Arena on economic and business developments.
- Quarterly forecasting on major economic indicators
- Research and analytical reports (25 in a year) on topical/thematic issues related to economy, trade and industry.
- An article/research paper from Subscriber in PHD Chamber Journal of Ideas and Innovation
- 10% discount for subscribers for Business &

**PHD Research Bureau**, the research arm of PHD Chamber of Commerce and Industry was established in 2010 with the objective to review the economic situation and policy developments at Sub-National, National and International levels and comment on them in order to update the members and industry stakeholders from time to time, to present suitable memoranda to the Government as and when required, to conduct thematic research studies on various socio-economic and business developments.

The Research Bureau has been instrumental in forecasting various lead economic indicators national and sub-national. It disseminates more than 500 analytical notes on various socio-economic and business developments in a year, prepare more than 25 research studies and research papers in a year, provide updations on Central and State Governments' policy announcements and prepare around 50 newsletters in a year.

PHD Research Bureau has conducted more than 125 studies/ Research Papers since its inception in 2010 for various Departments of Government of India, State Governments, Industry Organizations and Corporates.

## BENEFITS FOR SUBSCRIBERS

### Research Activities

- Research Studies
- Research Projects
- Research Papers
- State Profiles
- Impact Assessments
- Thematic Research Reports

### Comments on Economic Developments

- Global Economy
- International Trade
- Indian economy
- States Developments
- Infrastructure
- Foreign Exchange Market
- Agriculture & rural development
- Finance & Taxation

### Newsletters

- Global Economic Monitor (GEM)
- Current Economic Scenario (CES)
- Trade and Investment Facilitation Services (TIFS) Newsletter
- State Development Monitor (SDM)

## Subscription Fee

### Category

Industry stakeholders / Businesses / Professionals / Educational Institutes / Research Organisations / Industry Associations.

Research Scholars, Students and Individuals

### Yearly Subscription

Rs 5,000 + GST

Rs 2,500 + GST

### Free participation in 12 Webinars

Free participation to all the subscribers to join 12 webinars organised by PHD Research Bureau and its associated committees in a year on various topical issues related to economy, trade and industry.

Warm regards,

**Dr. S P Sharma**

Chief Economist, PHD Chamber

Email: [spsharma@phdcci.in](mailto:spsharma@phdcci.in)

*"Towards Inclusive & Prosperous New India"*

**For subscribing to PHD Research Bureau, please contact**

**Ms. Surbhi Sharma**, Associate Economist  
([surbhi@phdcci.in](mailto:surbhi@phdcci.in)) or 011-49545454; Ext 131

**PHD CHAMBER OF COMMERCE AND INDUSTRY**

PHD House, 4/2 Siri Institutional Area, August Kranti Marg, New Delhi - 110 016 (India)



**Dr S P Sharma**

*Dr S P Sharma has around 24 years of diverse experience in the various areas of the economy, trade and industry. He is working with the PHD Chamber of Commerce & Industry as Chief Economist. He has conducted more than 100 research studies/ papers/ projects etc. with prestigious organizations such as Government of India, State Governments, UNCTAD, European Commission, Industry Chambers/ Associations and corporates. He has participated in more than 100 programmes as an esteemed panellists/ Chair/ Moderator etc. organized by various reputed Government as well as Industry organizations, trade associations, educational institutes, research organizations, among others. Recently, he addressed International Research Conference on India-UK Economic and Regulatory Perspective organized by University of Portsmouth, UK, Seminar on Global Value Chains at University of Leeds, UK and International Conference on Global Value Chains and Industry @ 75 at IIM Trichy. He appears in various prestigious panel discussions/round tables conducted by various TV channels such as Lok Sabha TV, Rajya Sabha TV, Doordarshan and various private channels. He is a regular participant in the prestigious programme 'Market Mantra' of All India Radio. He is member of RBI Industry Monitoring Group, Editorial Board of Journal Press of India, Advisory Group of Birla Institute of Management and Technology, Surya Foundation, Geeta Rattan Institute of Management and Jaipuria Institute of Management, among others*

## 5. Improvement in Global Innovation Index and Ease of Doing Business Rankings will lead to Atmanirbhar Bharat

### Abstract

India has improved significantly in Ease of Doing Business (EODB) Index by the World Bank and Innovation Index by World Intellectual Property Organisation. Improvement in these two global parameters shows that India holds immense possibilities to become self-reliant; to meet up not only the domestic demand but also hold significant potential to compete in the global markets.

Indian economy has carved a special place and a bright spot for itself in the global ecosystem. At the global charts, the Indian economy is looking remarkably attractive in comparison to its performance in leading indicators, such as Global Innovation Index, World Bank's Ease of Doing Business rankings, Logistics Performance Index, Global Retail Development Index, among others, in the last five years.

India's ranking in the Global Innovation Index (GII) has improved to 48th in 2020 out of 131 economies as compared to 52nd rank in GII 2019. The GII, released by World Intellectual Property Organisation (WIPO), helps create an environment that evaluates innovation factors continuously. In 2020 index, it has provided detailed innovation metrics for 131 economies, which represents 93.5% of the world's population and 97.4% of the world's GDP.

The Innovation Input Sub-Index is comprised of five pillars that capture elements of the national economy that enable innovative activities: 1) Institutions, 2) Human capital and research, 3) Infrastructure, 4) Market sophistication, and 5) Business sophistication. Taking this into



consideration, India's improved rank in GII indicates the holistic development around innovation that the country has achieved.

India has been continuously moving towards creating an enabling environment by putting in place an ecosystem that breeds innovation. Several significant initiatives have been launched by the Government for propelling innovation in the country, such as the Start-up India initiative, Accelerating Growth of New India's Innovations (AGNIi), Atal Tinkering Labs, new intellectual property rights (IPR) policy, Smart City Mission, Uchcharat Avishkaar Yojana, among others. All these initiatives, coupled with phenomenal research and innovation from the institutions, industry, and society, are forming the foundation of India's position as an innovation and knowledge hub.

The financial dimension plays a critical role in fructifying these innovation efforts. Various fiscal incentives are offered by the Government of India's Department of Scientific and Industrial Research (DSIR) for R&D activities performed by institutions, academia, and industry for supporting, nurturing, and leading their innovations towards fruition. Various schemes of DSIR for the industry revolve around promoting industrial research, development & commercialization of technologies, management and export of technologies, stimulating consultancy capabilities, among others, are highly laudable.

In India, there has been phenomenal growth of the private and foreign-owned private equity/venture capital industry. The government has also played an important role in establishing and nurturing the industry segment by various fiscal concessions. Financial institutions such as the Industrial Development Bank of India and the Small Industries Development Bank of India lend support for innovation and commercialization of the innovative technologies, in addition to entrepreneurship.

The Global Innovation Index has been instrumental to India in shaping its policies and designing an actionable agenda for innovation excellence. The worldwide launch of the GII in India was a significant milestone for the country and a phenomenal recognition of its standing in innovation.

The COVID-19 pandemic has caused widespread disruption by adversely impacting global businesses and economies. As the world adjusts to its new normal, business leaders need to harness the most innovative technologies to help drive resilience and emerge from the crisis stronger. Governments across the world are in overdrive, designing fiscal incentives by slashing interest rates, tweaking taxes, and offering a moratorium on credit periods. The Government of India has also been devising incentives for start-ups, entrepreneurs, and other high-risk businesses to help ease the impact of the coronavirus outbreak. All such initiatives will go a long way in alleviating the disruption of the Indian innovation ecosystem.

On Ease of Doing Business front, India has shown a consistent improvement in the EODB rankings by the World Bank. India has improved significantly once again from the rank of 77th in 2019 to the rank of 63rd in 2020. This is the true reflection of the diligent efforts of the government to improve India's position in the global rankings. The country has successfully improved its position from 142nd in 2014 to the rank of 63rd in 2020.

In EODB ranking 2020, India positioned itself among the best performers along with Bahrain, China, Jordan, Kuwait, Nigeria, Pakistan, among others. The most significant parameters of ease of doing business such as starting a business, dealing with construction permits, trading across borders and resolving insolvency have shown notable improvement in the improvement of rankings.



2020 EODB index result has been the third year that India has been recognized for considerable improvement in its business environment in the Doing Business Report by World Bank shows that the government is committed to make it easy to do business in India for making it a global manufacturing hub. The improvement in ease of doing business would facilitate in achieving the Vision of Make in India and to attract domestic and foreign investments with the implementation of reforms at the grassroot level.

Going ahead, the thrust of the country should be to focus more and more on the innovations and not the import of products as innovations to produce at domestic level will significantly lead to increased efficiency and efficacy of enterprises to facilitate in making India a self-reliant country and to become US\$ 5 trillion economy in the next 5 years.





**Dr Niti Bhasin**

*Dr. Niti Bhasin is Associate Professor in the Department of Commerce, Delhi School of Economics, University of Delhi. She has authored books and articles related to foreign direct investment, international trade and Indian financial system. She has been invited to share her views by Department of Economic Affairs, Ministry of Finance; National Defence College, Ministry of Defence; PHD Chamber of Commerce and Industry; and educational institutions in India and abroad. She is the recipient of 'Best Business Academic of the Year Award' (2011) by Indian Commerce Association. Before joining the Department, she taught at the Shri Ram College of Commerce (SRCC) for about four years.*

Contact Details: [nitisurydse@gmail.com](mailto:nitisurydse@gmail.com)

## 6. Atmanirbhar Bharat: India's Response to Changing Global Dynamics

In the wake of changing global realities, the Prime Minister's vision of a self-reliant India is a timely and ambitious move towards boosting capacity creation, upskilling and upgrading of various sectors in the Indian industry ecosystem. While the announcement of this vision came as a policy response to deal with the depressed economic activity due to the Coronavirus pandemic, it is nevertheless a case of finding an opportunity emerging out of a challenging situation. With the current crisis arising out of Covid-19 making economies around the world unsure of the extent to which they can depend on each other, the importance of self-sufficiency has once again been brought to the forefront and India has taken its step forward in self-sufficiency well in time.

The initiative is not only targeted at boosting economic activity but creating competitiveness in a manner that Indian industry not only tides over the present economic crisis but tides over it in a way that brightens its prospects in the future as well.

While an effort to boost the manufacturing sector was also taken up by the government through the 'Make in India' campaign earlier, the Atmanirbhar Bharat program seems to be working in a more focused way. Instead of following a generalised approach towards identified sectors, the approach under the Atmanirbhar Bharat program seems to have a customised focus on the sectors identified.

The Department of Promotion of Industry and Internal Trade (DPIIT) has identified 20 champion sectors that would be the focus of the program and where short-term and long-term measures would be laid down to make India a manufacturing hub for these sectors. Some of these sectors include pharmaceuticals, defence, electronics, steel, aluminium, textiles and auto components. To take an example, in the auto ancillary or components sector, the aim is to target 5 percent of the global auto component trade and a four-fold increase in exports. The long term plan suggested by DPIIT is to bring auto components under the production linked incentive (PLI) scheme and evaluate local content and bring in value addition of automobile companies.

Further, the focus this time is not just on 'making in India' for exports but also looking at import substitution so as to develop indigenous capabilities. This dual approach is likely to work more effectively. An import substitution strategy would imply directing the domestic demand towards domestic products which should be more tenable as compared to getting the world to buy Indian products in the short-run. This strategy should also work because one of India's biggest strength is



its large consumer base. If its own people stimulate the demand for Indian products, it would result in domestic capacity building and technology upgrading, which could then lead to greater demand from abroad. The 'Vocal for Local' campaign aims to tap this strength of a large consumer market. Presently, this slogan is also resonating well with Indian consumers due to the current India-China standoff at the border as well as a global sentiment whereby multinational firms are reducing their presence in China.

While an import substitution policy has its merits as pointed above, an important aspect of such a policy is to ensure that it is a targeted one., i.e. those imports should be substituted for which competitive domestic alternatives either exist or can be developed fairly quickly. Import items which are essential raw materials for strategic industries should be carefully dealt with till a viable alternative is developed. If greater use of imported raw materials can result in substantial value addition in India's exports, then there may be a net benefit in importing them.

On the side of export promotion, it may take more time to stimulate exports due to two factors. One is the rising global protectionism which has led many economies (like India) to focus on self-sufficiency and reduce their dependence on other countries. The other is the heavy dependence of Indian exporters on subsidies and incentive schemes, which has led to complacency and hence less focus on building competitiveness by exploiting domestic capabilities. In addition, many of India's export promotion schemes have not found favour with the WTO on grounds of violation of global trade norms. In view of these factors, the government is working on formulating policies that would shift the focus from dependence of exporters on subsidies to building self-reliance. For instance, the Technology Upgradation Fund Scheme (TUFs) helped Indian textile businesses modernize processes and played a significant role in making India textile a key component of the global supply chain. Similarly, the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is directed towards technology upgradation and skill development which can help exporters to bring value addition to their products. This, in turn, can play an important role in positioning India in the global supply chain.

The Atmanirbhar Bharat program of the government has a clear and worthy intent of making the nation self-reliant and building a competitive industrial base that can enable India to become a significant player in global trade and investment.



**Mr Shantanu Shah**

*Mr Shantanu Shah is working as Deputy Secretary in PHD Chamber of Commerce and Industry. He did his PG Diploma in NGO Management. He is an active volunteer in NGOs working for sectors like Education, Healthcare, Skill and Environment in Delhi NCR and Lucknow.*

*Contact Details: 17shantanushah@gmail.com*

## **7. Mask- The New Normal and the unreachable Society**

Happiest people are the givers not the takers! COVID-19 crises and lockdown have taught this biggest lesson to the humankind around the globe. Especially to the people like us, who are taking the humanitarian approach for the families of the unorganised sector workers. The informal sector plays a significant role in the economy in terms of employment opportunities and poverty alleviation. This sector generates income-earning opportunities for a large number of people. In India, a large section of the total workforce is still in the informal sector, which contributes a sizeable portion of the country net domestic product.

The unorganised sector has a crucial role in our economy in terms of employment and its contribution to the National Domestic Product, savings and capital formation.

Unfortunately, these people are adversely affected due to this situation. We have supported all kind of families during the lockdown; unlock 1 to 4 - migrants, students, small vendors, rag pickers, scrap vendors, abandoned elderly persons, especially abled people, house helps, labourers, painters etc. Social distancing is something, which can be followed by many of them, as we ensure to orient them while giving the masks. Most of them with their families were on roads with just one hope to reach to their homes and villages. No one can lessen their journey, the pain which they and their families are going through.

BALA foundation, an NGO has tried to provide them dry snacks, water bottles, footwear, cotton masks at the NH24 near the IIM Road at Lucknow. Most of these people have realised the importance of masks and they themselves were willing to wear. We wished for their safe journey and a reunion with their loved ones in those trying times of lockdown and COVID19.

Arranging masks are not easy for the under privileged families, as purchasing masks will be an additional costs to them. That to when surgical masks are for one time use, which comes at the cheap rates. Awareness regarding use of masks, reuse of masks, how safe are they, how to judge the

usefulness of a mask? So many queries and no one to orient these people, who comes under the under privileged category of our society.

BALA foundation is also communicating in the slums, rural areas to prepare handmade double-layered masks with used clean cotton clothes, by simple stitching or if anyone has sewing machine they can use that to prepare and sell on the nominal process in the nearby houses. They are washable and reusable masks. Self Help Groups and women organizations are preparing and selling double layered cotton masks made out of new cloth.

I am contributing through this organization and doing my bit to support through the distribution of masks. Earlier it was done in the planned way, as it was new normal. Later it became my habit. Presently, whenever I am leaving home I ensure to carry extra masks in the car or in my carry bag. Anyone without mask gets it from me e.g. a vegetable vendor, bread seller, fruit vendor, rag picker, anyone on the street. I have observed that the people of this organization do the same.

Speaking few lines to make them understand the importance of wearing the mask, that to in the correct way. Try to scare them by saying if you will not wear a mask before stepping out of your home. You may carry the virus for your family; do you want to do it? Once we try to connect things with our loved ones, people tend to listen us.

My contribution towards the society in this pandemic is not over, pray for more strength to continue this support with the help of BALA foundation, Lucknow and save lives just by communicating one behavioural change.







**Ms Kritika Bhasin**

*Ms Kritika Bhasin is presently working as a Research Officer at PHD Chamber of Commerce and Industry. She has 5 years of work experience in economic, policy and market research. Banking and macroeconomic developments are her core portfolios. Prior to this, she worked as a Team Lead- Research Analyst at Daedal Research Pvt Ltd. She has various publications across industries and economic themes. Her piece of work got featured in The Employment Newspaper and PHD Chamber Bulletins. She has done Masters in Economics from Amity University*

Contact Details: [kritika.bhasin@phdcci.in](mailto:kritika.bhasin@phdcci.in)



**Ms Shivani Mehrotra**

*Ms Shivani Mehrotra is currently working as a Research Associate at PHD Chamber of Commerce and Industry. She has 4 years of work experience in economy & policy advocacy and market research. Her key domain areas include State affairs of Indian economy, Rural and Macroeconomic developments. She is a postgraduate in Economics. She appeared as a columnist in The Guardian. She has a flair for writing and her creations have been published in 'The Half Baked Beans' and 'Bookmarked with Bliss' in collaboration with Notion Press Publishing.*

Contact Details: [shivani.mehrotra@phdcci.in](mailto:shivani.mehrotra@phdcci.in)

## 8. Five Green Strategies for Sustainable Revival of Growth

The pandemic COVID-19 has resulted in the fall in business & consumer confidence thereby impacting the overall economic and industrial activities. The deceleration in GDP growth to the level of 3.1% in Q4 FY2020 is worrying. According to various professional forecasters, India's growth has been slashed for the current year due to daunting impact of pandemic COVID-19. For instance, IMF estimated 1.9% in FY2021 and 7.4% in FY2022; World Bank projects 1.5% to 2.8% in the 2020-21 and rebound to 5% in 2021-22, among others. Nonetheless, various reform measures have been announced by the Government during the last few months to revive and rejuvenate the economic growth.

That said, the current situation not only calls for revival of growth, but for sustainable revival of growth keeping into mind the longer term perspective of survival and sustainability of human race. Though slowly and gradually, India along with the world has realized the importance of 'green factor' over the 'money struck mind thinking'. Be it use and development of renewable sources of energy or continuous tightening of pollution related norms, India is moving towards going green.



It is widely believed that there is a mutually exclusive choice between environment and the economic development, however, if strategically planned, these two things could very well go hand in hand. At this background, five green strategies are suggested to be adopted including green jobs, green investments, green livelihood, green sectors and green cities for sustainable revival of growth and becoming AtmaNirbhar.

Green jobs is not a newly coined term, though not much popular relative to the traditional jobs. Green jobs refer to jobs that directly or indirectly contribute in restoration and preservation of environment and protection of ecosystem. These jobs can be encompassed in either traditional sectors such as manufacturing, construction, research & Development, administration or newer green sectors such as renewable energy and energy efficiency. Promotion of green jobs along with focus on circular economy can create millions of employment opportunities for India's young population. Also, as much of the economy relies on a clean environment and adequate stocks of natural resources, the green jobs will also provide future generations a healthy and diverse environment and contribute in long-run economic growth.

Smart City Mission was launched in 2015 by the Government of India for renewal and development of urban cities in various states of the country. However, on the background of alarming environmental condition of the country, it is suggested that the focus of the Government should be more on the development of Green Cities from Smart cities for achieving sustainable development in the coming years. The Green Cities focuses on reducing fossil fuel use, adopting sustainable building practices, promoting more green spaces, increasing availability and use of public transport, sustainable construction practices, along with others. Green cities usually focus on environmental themes, but the greatest impact of these Sustainable / Green cities could be on economy. Sustainable cities attract professionals and companies employing them; and also healthy and fit people contribute to the productivity and growth of the country.

Green investments are traditional investment vehicles in which the underlying businesses operations are aimed at improving the environment. This includes companies that develop alternative energy technology and companies that have best environmental practices. The green investments would initiate the virtuous cycle of green demand and green supply which could help in building a sustainable future decades. Green bonds are debt securities issued by financial, non-financial or public entities where the proceeds are used to finance 100 per cent green projects and assets. India now has the second-largest emerging green bond market after China. Further, it is the need of the hour to build consumer and business sentiments to invest in 'green portfolio' namely water, agriculture, telecoms, power, transport, buildings, industrial and forestry sectors.

Green livelihood refers to an initiative of promoting those sustainable and greener practices that act as an economic driver at the same provide sustainable livelihood opportunities to rural and population in country. If tapped efficiently it could help major chunk of population to rise above the poverty line. At the same time it promotes oxygen and minimizes carbon dioxide. For instance, production of bamboo minimizes carbon dioxide gases and generates upto 35% more oxygen than equivalent stand of trees. However, there is presence of demand supply gap in bamboo products. Another instance would be promotion of forested landscapes as it provide livelihoods to billions people along with providing clean water, fertile soil for food production and are pivotal for a stable climate. Its importance could also be mapped by mentioning that the Green Livelihoods Alliance is one of the 25 strategic partnerships in the policy framework of the Netherlands.

For long-term green development model of Indian economy, it is essential to ensure a tight coupling between economic growth and environmental sustainability. This will require setting up of various



green industries and giving thrust to green sectors in the upcoming decade. India being a tropical country, is endowed with varied climatic conditions across the states, and other natural resources, from flora, fauna, to spice gardens, among others. The country could benefit from both comparative and competitive advantages if this could be strategically harnessed. This would significantly support the vision of 'Aatmanirbhar Bharat'. Though, the country has a potential to become the biggest supplier of green energy to the world in form of Solar energy, wind energy and hydro energy, however, a green economy is beyond wind turbines and solar farms- it is the next industrial revolution.

In a nutshell, with a mixed and complicated scenario comprising of subdued economic growth, COVID-19 situation and worsening climate change, it is essential that India starts shifting towards and building greener pathways for economic growth and sustainability.



**Ms Bhawna Kakkar**

*Ms Bhawna is a Post-graduate in Economics. Having more than 5 years of work experience, she has worked in areas of programme management & general administration in an academic setting and economic research in institutes of international repute. Presently, she is working as a Research Associate in PHD Chamber of Commerce and Industry, a National Apex Chamber. Having diversified interests in economic research particularly international trade & investments and policy advocacy, she is passionate about writing and thought leadership.*

*Contact Details: bhawna.kakkar@phdcci.in*



**Ms Manpreet**

*Ms Manpreet has completed B.Com and B.Ed. from Punjab University, Chandigarh and is pursuing M.A in Economics from IGNOU. Presently, she is working as a teacher in Delhi Public School, Pakur, Jharkhand and is associated with PHD Research Bureau of PHD Chamber of Commerce and Industry as a Research Intern.*

*Contact Details: manpreetk2938@gmail.com*

## 9. Understanding Growth Linkages between World Trade and GDP

### 1. Introduction

Over the last few decades, the world economy has experienced sustained positive economic growth and has been accompanied by even faster growth in world trade. It is observed that economies that are open to international trade tend to grow faster, innovate exceptionally, witness improvements in productivity and generate higher income and more opportunities for their citizens. With this backdrop, movements in international trade and GDP are closely related and it becomes important to understand the growth linkages between world trade and GDP over the years starting from 2000s when the globalization trend had gained momentum across the world.

### 2. Analysis of growth linkages between world trade and GDP

Over the years, world exports of goods and services have increased significantly from USD 6128 billion in 2001 to USD 24852 billion in 2019 while world imports have increased from USD 6296 billion in 2001 to USD 24812 billion in 2019. Therefore, total world trade has increased from USD 12423 billion to USD 49664 during the same period. Further, world GDP at current prices has increased from USD 33427 billion in 2001 to USD 87,752 in 2019. Accordingly, world exports to GDP ratio has increased from 18% in 2001 to 28% in 2019 while world imports to GDP ratio has increased from 19% in 2001 to 28% in 2019. As a result, total world trade to GDP ratio has increased from 37% to 57% during the same period.

World trade to GDP ratio during the period 2001-2019

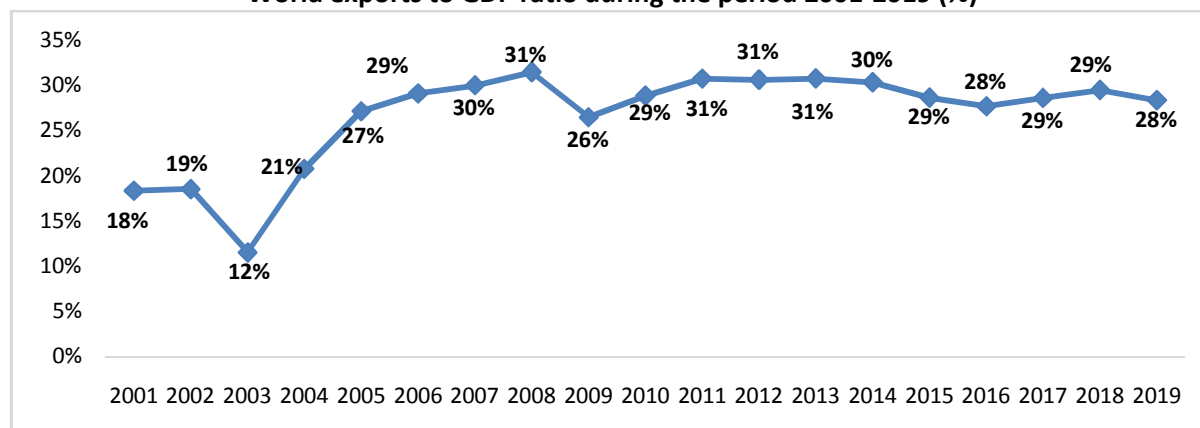
Year	World Exports (USD Billion)	World Imports (USD Billion)	Total world trade (USD Billion)	World GDP at current prices (USD Billion)	Exports to GDP ratio (%)	Imports to GDP ratio (%)	World trade to GDP ratio (%)
2001	6,128	6,296	12,423	33,427	18%	19%	37%
2002	6,424	6,601	13,025	34,710	19%	19%	38%
2003	4,486	7,700	12,186	38,945	12%	20%	31%
2004	9,101	9,393	18,494	43,867	21%	21%	42%
2005	12,885	13,120	26,004	47,517	27%	28%	55%
2006	14,973	15,207	30,180	51,502	29%	30%	59%
2007	17,398	17,591	34,988	58,032	30%	30%	60%
2008	20,016	20,296	40,312	63,676	31%	32%	63%
2009	15,968	16,165	32,133	60,396	26%	27%	53%
2010	19,056	19,796	38,852	66,113	29%	30%	59%
2011	22,561	22,675	45,236	73,448	31%	31%	62%
2012	22,984	22,981	45,965	75,146	31%	31%	61%
2013	23,759	23,612	47,371	77,302	31%	31%	61%
2014	24,079	24,025	48,104	79,451	30%	30%	61%
2015	21,525	21,557	43,081	75,199	29%	29%	57%
2016	21,113	21,078	42,191	76,336	28%	28%	55%
2017	23,210	23,211	46,421	81,229	29%	29%	57%
2018	25,467	25,484	50,952	86,409	29%	29%	59%
2019	24,852	24,812	49,664	87,752	28%	28%	57%

Source: PHD Research Bureau, PHDCCI, compiled from Trade map and World Bank database. NOTE: Figures for the year 2001-2004 pertains to goods only

## 2.1 World exports to GDP ratio

It has been observed that higher economic growth rates, lower transportation costs, globalization, economies of scale, reduced trade barriers, among others have contributed in increased level of world exports. World exports as a percentage of world GDP have increased from 18% in 2001 to 28% in 2019.

World exports to GDP ratio during the period 2001-2019 (%)

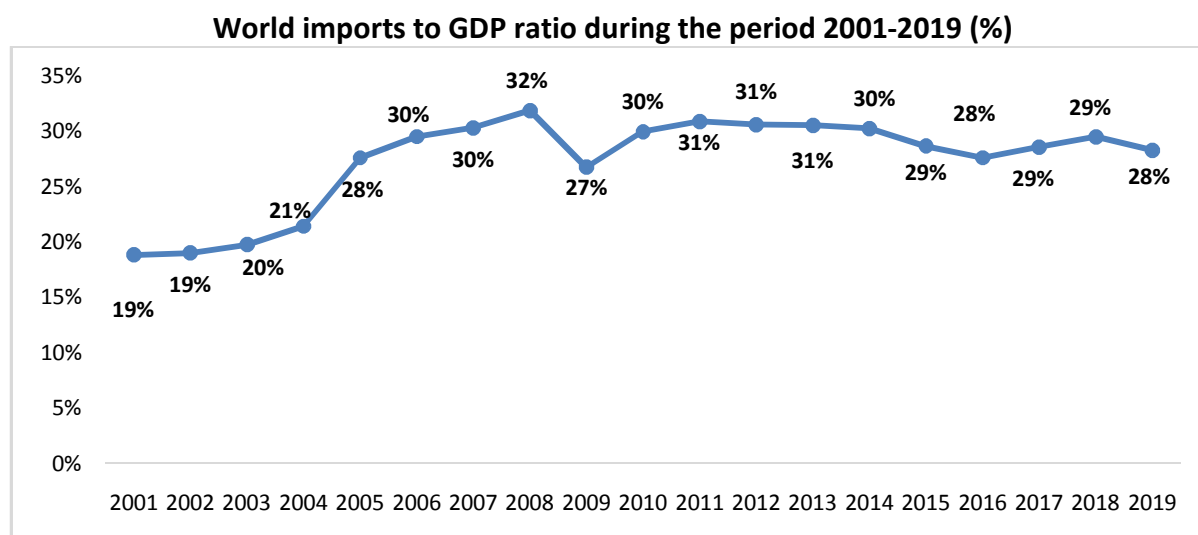


Source: PHD Research Bureau, PHDCCI Compiled from Trade map and World Bank database



## 2.2 World imports to GDP ratio

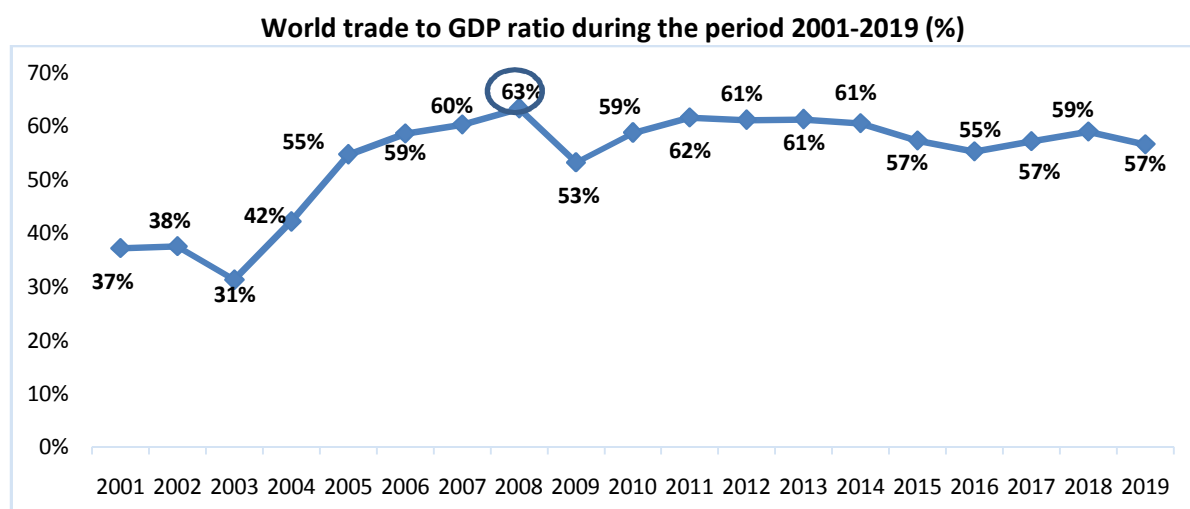
One of the important reasons for imports is that goods or services that are either essential to economic well-being or are highly attractive to consumers but are not easily available in the domestic market. World imports as a percentage of world GDP have increased from 19% in 2001 to 28% in 2019.



Source: PHD Research Bureau, PHDCCI Compiled from Trade map and World Bank database

## 2.3 World trade to GDP ratio

Globalization has been a key driver of unprecedented economic growth and expansion of foreign trade. It has been observed that, world trade as a percentage of world GDP has increased from 37% in 2001 to 57% in 2019.



Source: PHD Research Bureau, PHDCCI Compiled from Trade map and World Bank database

Since the 2000s, the rising trend in globalization and the associated gains from free trade led to significant increases in world trade and GDP. As a result, the world trade to GDP ratio peaked at around 63% in the year 2008. However, the world economy plunged into the most serious recession



afterwards that spread on a global scale mainly through two channels: financial markets and foreign trade and is widely known as the Global Financial Crisis (GFC).

The trend in the world trade to GDP ratio has remained to be fluctuating and never attained the pre-crisis peak level due to a variety of reasons including rising protectionism and unilateralism amongst many economies. Thus, rising nationalism and geopolitical tensions including USA-China trade tussle and fears surrounding BREXIT have had a severe impact on global economic prospects resulting in below potential global growth and prosperity.

Moreover, rising trade and geopolitical tensions have increased uncertainty about the future of the global trading system and international cooperation more generally, taking a toll on business confidence, investment decisions, and global trade. Furthermore, the pandemic COVID-19 outbreak in almost every country of the world has already brought considerable human suffering and major economic disruption.

### **3. Conclusions & recommendations**

It has been observed that there are considerable linkages between world trade and world GDP. Rapid globalization and industrial advancements have led to significant increases in cross border trade and world GDP. The global economy is now experiencing the deepest recession since the Great Depression in the 1930s due to severe economic disruptions caused by COVID-19. As per IMF, global growth is projected at (-) 4.9% in 2020 while WTO projects world trade to fall by 13%-32% in 2020.

After decades of high growth for world trade, global tourism and international cooperation, globalization hit certain roadblocks in recent years, as the re-emergence of nationalism and protectionism have undone some of the progress made in the past. After global trade growth slowed significantly in 2019, partly due to trade tensions between USA and China, the COVID-19 pandemic is expected to cause an unprecedented fall in world trade, going forward.

At this juncture, there is a need for a coordinated international response to the global crisis created by the spread of COVID-19 not just on health but also on global trade, finance and macroeconomic policies. Going forward, keeping markets open as well as fostering a more favourable business environment by all countries will be critical to spur the global economic prospects that leads to a much faster recovery than if each country acts alone.



**Ms Seema Malik**

*A dedicated professional with over 35 years of experience in school education field, Ms. Seema Malik has developed policies and practices that promote a school culture that encourage continuous improvements for teachers and students. She started her career as a senior teacher of Geography in Delhi, and became a school principal in DPS after fifteen years. She has been heading leading schools of India for the last two decades. She is MA in Geography from Delhi School of Economics (DU), B.Ed. from CIE (Delhi University), M.Sc. in Human Resource Management from University of London (UK) and M Phil in Educational Leadership and School Improvement from Cambridge University (UK). Some of her major responsibilities have been coordinating and supporting development of innovative instructional programs and reviewing schools heads' performance periodically and giving feedback. She has worked over the years, infusing motivation among all stakeholders in schools through continuous professional development.*

*Having won a National Award from Centre of Science and Environment, Delhi, she has been promoting the cause of sustainability in schools. At Cambridge University, she was awarded for ideas on building sustainability in the infrastructure by Department of Mathematics, under the Green bridge program. She was instrumental in regenerating and reviving a dead pond with school students' initiative at Ludhiana for which she got a Green School Award by CSE. School under her watch have developed non-conventional sources of energy due to which schools electricity bills have got lowered. More than five thousand trees planted by her students, today there are green belts thriving around her school. She writes blogs regularly on environmental issues faced by the world. At Salwan Schools, she has been working relentlessly on building plastic free eco systems and motivating all stockholders to lead an environmentally responsible life*

*Contact Details: principal.spsmayurvihar@salwanschools.com*

## 10. Teacher as a learning strategist in Covid times

The impact of Covid 19 will remain for years, if not longer across various sections of the economy. Education has been badly hit with millions of students stranded at home, staring at the screens and partaking of instruction passively. According to the United Nations Educational, Scientific and Cultural Organisation (UNESCO), nearly 1.6 billion children in 190 countries have been affected with the school. The academic community took to its new WFH (work from home) avatar. But the lockdown has been no dampener in teachers' creativity and spirits. They learnt fast to connect with 'remote' students. The physical distance of online teaching did not deter them from the sacred responsibilities of shaping the minds and spirit of the students. This unprecedented situation fostered quickly the opening of digital interface of education, irrespective of the great digital divide that the country has. At least a quarter of Indian households are without internet access and a much larger proportion deals with dissatisfactory electricity supply. Even in Tier 2 and 3 cities, in a single family with two children, there was availability of only one smart phone to access school instruction.

Due to the accelerated adoption of the digital platform, many educational institutions considered this challenge as an opportunity to experiment with technology tools. Not to let the crisis hamper



the curriculum, e-learning spread its wings faster than it would have been possible in normal circumstances. This turned educational pedagogy from teacher-centric to student-centric, allowing for greater engagement between the teacher and the taught to make the learning experience as real as possible. However, the quality and pace of this transition depended on the internet connectivity, availability of technical devices at home and preparedness of the teachers to get comfortable with e-learning practices. It was no less than a technological revolution triggered with a crisis that came upon us without any premonition. This hugely transformative revolution brought virtual classrooms within the confines of the homes, gearing everyone up to rise to the opportunity.

The educational institutions started designing curriculum for online delivery with major changes so that attention spans are retained in the digital format. It's one thing to engage the students in online classes and another to engross them in learning from lack of live interaction in physical presence. Given the social and economic world they will be entering, they need less of rote memorisation and more of guidance in becoming self-directed learners. Not only new ways of classroom transaction have been devised under the current scenario, but also online assessments have been developed for regular feedback. Blended and flipped learning have become the new buzzwords. Simultaneously, academic meetings, seminars, parent-teacher conferences, everything turned to online platforms.

It is important to understand the key features of e-learning environments to create high quality learning possible. Social dimension of learning will always remain the highlight of classroom learning. Activities like collective brainstorming, team-projects, live chats, shared whiteboards and role-playing can lend a social interactivity to online learning. We need our students not only to focus on concepts but also the key ideas, relationship and skills. The learning environment interface should also meet the desired standards for usability, which requires professional design skills. A framework of well-articulated learning objectives and outcomes are also needed which will make learning quantifiable for the learner. Even the most attractive power-point presentations will not ensure active learning unless there is a simultaneous teacher audio and video component.

The most common complaint of students in online format is that they find monotony and ennui, sitting before the screen. To get them fully engrossed in learning, we need to have multimedia interactions, simulations, explorations, games, quizzes and drag-and-drop exercises too. This is in stark contrast to the traditional classroom where teacher's discourse dominates the environment. With appropriate measures, online teaching can become shared and collaborative learning - the ideal model of instructional dissemination. Finally, feedback mechanisms have to be built in to be ploughed back to the classroom transaction and reinforce knowledge. Built-in tracking mechanism for student performance can enhance the overall experience.

If Covid-19 triggered school closure has taught the educationists anything, it is that we have learnt to liberate learning from outmoded systems of curriculum delivery and the disproportionate emphasis on information transfer. Educational revolution which might have taken another decade in coming is now around us and the ramifications will take much longer to fully reveal to us. Technology has been used purposefully to enhance rather than just automate learning. What is also certain is that the teacher has fluidly shifted to myriad of roles including learning designer, facilitator, networker, mentor and coach. We have indeed changed the way we look at education.



**Mr. Deepak Kumar**

*Deepak Kumar has 12+ years of experience in the field of Business Intelligence, Data Science and Analytics. He is presently working with Karvy Insights as Associate Vice President – Data Science. He is a Mathematics (H) graduate and holds master degree in Management as well as computer application. He has studied at IIT Delhi, IMT Ghaziabad and Delhi University. He has been a keynote speaker at several industry forums and conferences. He has conducted several workshops/FDPs in the field of analytics for corporate professionals, academicians and students. He considers himself an explorer in the field of data science and analytics and believes in the positive impact of data driven decision making on business, education and everyday lives.*

Contact Details: deepak812@gmail.com

## 11. Application of Data Science in Marketing

The consumer is changing. The mindset of buyers does not have a specific way. Every day, Companies are trying to read the consumer's mind and are always eager to explore what is going inside the mind of a consumer while making a purchase decision. The market place has changed now. The conventional marketing techniques are becoming obsolete. The first set of changes in product marketing came when the culture of supermarkets emerged. Many traditional shopkeepers had rejected the supermarket concept then, but when reality hit them hard, then the corner grocery stores also allowed customers to choose and pick the product on their own. The same thing repeated when the e-commerce portal started selling the products online. No one had ever imagined that one could buy anything on a click while sitting in the comfort of his or her own or while moving.

Data Science is one of the areas, which is helping the marketing department of every company. Whether one is selling the product or services, both are getting tremendous help in every decision they make from data science techniques. The companies are collecting and storing the data every second. This data is producing valuable information using data science techniques and tools. From product inception to product decline, everything is changing with the help of data science. Marketing research and consulting firms who are the most crucial supplier of consumer data to large organizations are generating insights from these data sets. The data is present in many formats and broadly classified in two types: structured and unstructured data. Nowadays, there are many techniques and tools available to analyze both types of data and provide real-time information for decision-making. We have highlighted some of the primary applications of data science techniques in the critical area of marketing decision making.

- Customer Segmentation - If, as a company, you know who is buying your product, then you will never have to worry about your bottom line. Understanding the different segments of buyers can help in many ways. You can create a customized product for different types of consumers. Your marketing strategy can be shaped and reach to the relevant consumer. Data Science can help create a segment of your consumer based on their buying patterns and demographic information. The Customer Relationship Management systems can provide secondary data and online methodology to collect primary data about the customers, which can help data scientists build the segmentation model. Cluster Analysis techniques are data





science techniques that help define the segment of consumers for any products. Behavioral data plays an important role apart from demographic information while creating the segment of consumers.

- Pricing Strategy - Data Science helps in defining the appropriate price of a particular product. It is essential to know how much a consumer will pay for a specific product. One of the crucial techniques is conjoint analysis. In this analysis, a consumer is shown a different combination of attributes of a product, and then they select which one he will prefer to buy and on what price. Post that, the data science algorithm analyzes the data to provide the optimal amount chosen by a set of consumers.
- Competition Benchmarking- Market is a battleground where there are so many opponents who want to attract consumers. There is no shortage of options for any product. The age of monopoly is almost gone. Therefore, it is essential to know whom you are fighting. The completion benchmarking can help the company to win this. A company compares themselves with their competition by this process. There are several methods available under data science that can help analyze the performance of the product, representation of channel, and reach. Social Media Analytics is highly used these days for improving the benchmarking process.
- Supply Chain Management – This is one of the critical areas for any business, especially for a product-based company. Nowadays, the whole process of Supply chain management is automated using data science algorithms and tools. Some companies have built a zero manual intervention model for their supply chain management. In the past, the supply chain function was an operation process purely, but with the help of the latest data science techniques, block chain, artificial intelligence, it is an emerging strategic advantage. Demand forecasting, procurement, distribution is using various modeling techniques and real-time data.
- Target Marketing – The dimension of marketing has completely changed now. In the past, a banner or posters were placed on various locations where maximum people can see, and the company used to believe that the product information has reached the right consumer that is not true anymore. Nowadays no one cares what is displayed until it is essential information for him or her. The predictive modeling techniques in data science is helping companies to create target based marketing campaign. The online advertisement is fully algorithm-driven. The data science algorithm running behind knows whom to show what. These automated techniques provide a maximum reach of any product to the right consumers.

The above mentioned examples show that it is essential for every marketing person to know about data science. The decision based on gut feeling may not always help, but the decision based on the right data will still help. There are many resources available to educate in the field of data science. The prerequisite for enhancing the knowledge in the file of data science is basic mathematics and statistics, along with computer science. A marketer who has expertise in his domain and basic understating of data science can generate gold for any organization. Remember that in the upcoming time, only data will be the truth rest everything will be an illusion.



**Mr Tapas Chatterjee**

*Mr. Tapas Chatterjee has a postgraduate degree in Chemistry (Msc). Mr. Chatterjee has 45 years' experience in the field of evaporation and drying technology and carried out extensive research work on these subjects. He is pioneer in providing many innovative industrial solutions including ZLDS for industrial waste waters, waste to wealth technologies for agro processing sector, most energy efficient evaporations and dryers for dairy and food industries, municipal sludge volume reduction technology for STP's. Not only he has developed innovative process technologies but also scaled up those technologies into commercially viable projects. His mastery of the evaporation and drying technologies has led to many innovations and resulted in twelve patent applications out of which five patents are already granted. He has several publications in his name and received many awards and honours as an individual as well as for the company.*

Contact Details: [mdoffice@ssp.co.in](mailto:mdoffice@ssp.co.in)

## 12. Thermal Stabilization and Volume Reduction of Sludge (THESVORES): Ground breaking technology that will change the way of sludge handling globally.

**Introduction:** All major metro cities are facing problem of disposal of sludge generated from various sewage treatment plants. At present total sludge generation is around 7000 MT per day having solid constituency of 15-20%. Major municipalities are planning to install another 3000 million liters per day sewage treatment plant, which will generate another 6000 MT of sludge per day.

The sludge mainly constitutes of organic matters, bacteria, toxic chemical, pharma active compounds and heavy metals and dumping them in open, not only requires huge land fill sites but also leads to **ecological degradation**. Surface dumping pollutes water bodies like rivers & lakes, while pathogens, E-coli & bacteria penetrate into ground water.

### Challenges:

Continuous increase in the volume of waste sludge generation requires huge land fill area, which is becoming a constraint in the major cities. A proper solution of this problem will help to mitigate global warming and environmental issues to the largest extent, not only in India, but also in the global perspective.

### Solution:

To mitigate the problem, SSP has developed an innovative technology for reduction in the volume of municipal sludge, which will change the **future of sludge handling**. This technology not only helps in reduction of sludge volume by over 90%, but also uses dried sludge as fuel for generation of sufficient energy for operation of the system. Thus, the technology makes the complete process of sludge volume reduction self-sustainable.

This unique system reduces the volume of sludge **by > 90%** and the left-over inert solids can be used as a binding material in construction or in pavement tiles. This is achieved without the need for incineration or any other process that may further harm the environment. The process is carried out,

without leaving any traces of odor and produces an inert residue which can be utilized for construction purpose.

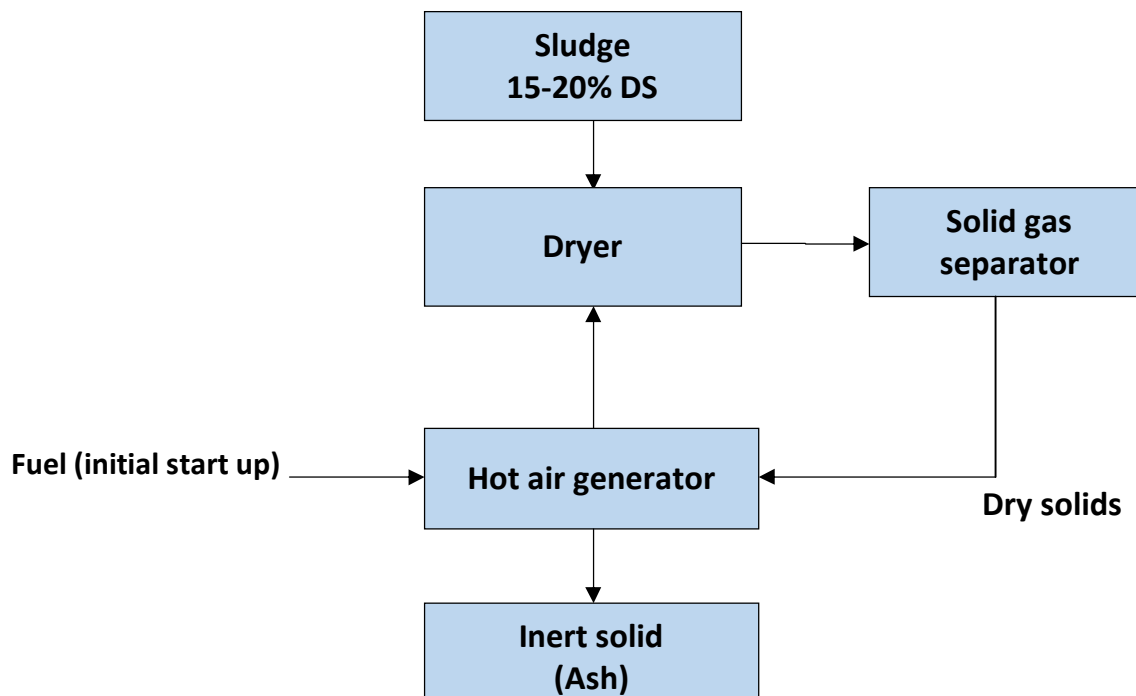
This sludge drying and volume reduction system is a patented technology and developed in SSP Research and Development Centre.

The sludge handling technology is known as “THESVORES” (Thermal Stabilization and Volume Reduction System).

### Salient Features of THESVORES

- The volume of dewatered sludge is reduced by 90%.
- The exhaust from THESVORES meets the CPCB/USEPA emission norms.
- The calorific value of sludge is utilized for generation of hot air for drying.
- The residual ash can be used for increasing strength of concrete and can be used for making tiles
- Land fill sites not required
- THESVORES can be built in flexible designs to fit the space available on site. In new STPs, it can be integrated with the dewatering building to provide a compact layout. The entire system takes very little space when compared to the scale of the STPs.

### The Process





**Dr. Ashok Kumar Jain**

*Mr. Ashok Kumar Jain has did his B Tech (IIT/K) in 1969 and M Tech (IIT/K) in 1971. He completed his PHD (MNNIT/ALD) in 2014. Mr. Jain has been Self-employed since 1972. He Manufactured and erected many prefab Ferrocement buildings and allied structures all over the country. His various Technical Papers have been Published and presented in India and abroad. He is also a Consultant to a few Industries engaged in ferrocement manufacturing*

*Contact Details: [akjferrocement@hotmail.com](mailto:akjferrocement@hotmail.com)*

### 13. Reducing power consumption

POWER PRODUCED == > DEVELOPMENT & HUGE CAPITAL EXPENDITURE

POWER SAVED ==> SUSTAINABILITY & HUGE CAPITAL SAVING

The surge in demand for energy is an indication of improving economy. As India grows into a global giant, the urgent need for clean, efficient and quality energy that does not add to Carbon footprints in production, transmission and usage, and yet meets the demand of all sectors, industrial and non-industrial, urban and rural, agriculture and domestic, office and entertainment, grows.

And to meet this ever-growing demand, conventional wisdom dictates that more and more electricity generation plants be planned by the Governments. This means huge capital cost and use of other scarce resources like coal and water. And perhaps, use oil and gas, much of it imported, and strengthen the transmission and distribution sectors. Every step means more expenditure.

There is no denying that new power plants would be required, the systems must be strengthened, and energy usage increase assisted so that development goals are met.

However, would not it help, if we endeavoured to reduce this heavy burden on our national resources and finances by innovating ways and means for reducing the consumption of power, at least in non-industrial domain without compromising quality or comfort?

The first meaningful steps have been taken. LED bulbs are available, some through the government and more in the open market. The prices are also declining, and better and better LED bulbs are coming into the market. The issues of availability, affordability and accessibility are also being tackled head-on. Other initiatives are also being taken, some under implementation and some on the drawing-board.

This paper makes an endeavor in the direction of an adage, "Energy Saved is Energy Gained." The thrust of the authors is to promote the idea of energy savings with smart moves. Essentially it is a concept paper identifying some ideas for further development, trials, and implementation.

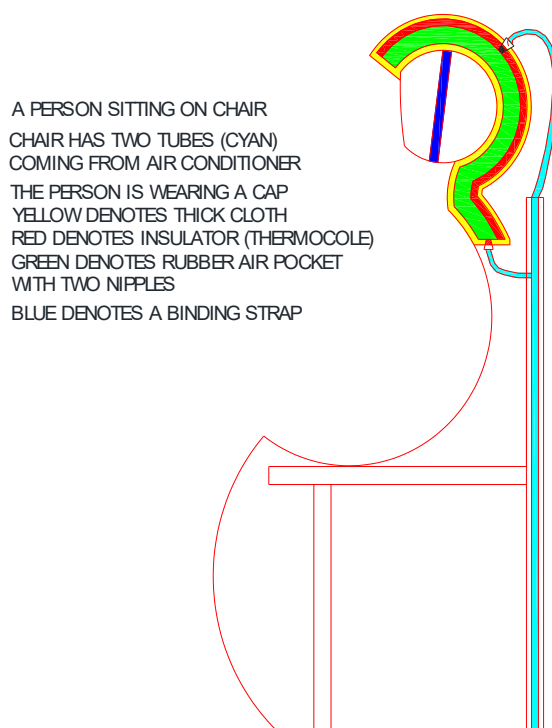
#### FUNDAMENTALS

Isn't it a fact that that if one sits at a table with a fan blowing onto his face, he achieves a comfort level that makes his entire body comfortable? It is a general practice. Why not work on this fact for even air-conditioning?

Similarly, keeping a heater / hot air blower at one's feet makes one comfortable in winter. Even a person with high fever gets relief by putting cold cloth strips on his forehead only.

## IDEA

These observations lead us to the conclusion that blood flow in the body plays the role of the temperature equaliser in the body. If it is so, why control the weather of the whole room to make persons comfortable in the room? This led us to the following contraption.



With the continuous flow of cool air from the air-conditioning unit, the person would remain comfortable with just 0.03 cum of cool air compared to at least 30 cum of air to be cooled for the entire room. These COOL CAPS can be an integral part of every chair in the room and whoever comes in and uses the Cool Caps will be comfortable. If the investment in Cool Caps appears to be threatening, consider the savings in capital expenses on the air-conditioning apparatus and the savings in energy bills.

{If in an auditorium, there are about 500 people and we need maximum 15 cum cool air instead of 900 cum (15m x12m x5m)}

One can easily appreciate the saving in power.

Extending the idea little further, just for 0.03 cum air, one can think of a solar powered air conditioning portable unit which can be conveniently carried on the back.

*Ref: Jain, A K, et al, "Towards Sustainability in Power", Annual technical Volume, Institution of Engineers (India), 2017*





**Ms. Anisha Merin Varghese**

*Ms. Anisha is currently pursuing final year pharmD programme. Towards the goal of being an oncology pharmacist and above all being able to fulfil her duties and responsibilities towards her patients with love and care. She is a true believer in hard work, consistency, persistence and discipline in what she does and puts her best foot forward. As it says we grow professionally as much as we grow personally.*

Contact Details: anishav7@gmail.com

## 14. The act of nature to the modernised problems

### INTRODUCTION

With the rapid growth in industrialisation poses an increase in damage to the environment and life span of species. The one such damage is leakage of oil spills to the nearby water bodies especially oceanic oil spills being the worst ecological disasters affecting economically, socially and environmentally. It's high time for our generation to understand that oil spillage is no longer rather in the past or future, it is happening and will continue to happen resulting in devastating effect to environment, marine and human life. This unintentional or negligent release of intensified petroleum products exacerbates the overall situation. Taking to the history of 10 years back, the most disastrous oil spill in history occurred at the Gulf of Mexico nearly 200 million gallons of crude oil were spilled. A similar incident was also recorded in Chennai about 73 metric tons of heavy fuel oil was spilled in to the Bay of Bengal. Even after 10 years from now we can still see the lasting effect of oil spillage to the exposed community resulting in acute exacerbation of neurological, ocular, respiratory distress. The most recent oil spill occurred on May 27th, 2020 in the state of Assam referred to as Baghjan gas leak endangering approx. 12,000 human lives and wetlands, a home to endangered species 1 in 12000 in the world and death of aquatic lives specially the river dolphins. As per statistics released by Environmental Protection Agency, about 14000 oil spills occurs at each and every year worldwide making this topic relevant

### ECONOMICAL AND ECO- FRIENDLY SOLUTION:

Though various ways are present to contain the oil but they aren't no satisfactory method been developed for cleaning the spillage. All those have only created an additional economic burden to the country's commerce. The answer to this problem lies in the tiniest organism in Earth called bacteria. The IIT Bombay Researchers has come up with the cost effective, low technology with high public acceptance called bioremediation using the bacterial strain *Pseudomonas putida*. What makes this bacteria peculiar is the suppression of glucose utilization unlike other bacteria and thereby increasing the proteins and enzymes needed for transport and breaking down of aromatic compounds i.e., petroleum as their primary source of food. Meaning even when both petroleum and glucose are available, *P.putida* just utilises the petroleum and only when it is exhausted it starts feeding on the glucose. Apart from degrading the oil it also have the promising abilities of oil ingestion as well. Due to its strong appetite to organic solvents provides the major advantage of removing the aromatic compounds such as petroleum, crude oil, coal and thus preventing the post-effect of oil spillage.



Apart from this amazing property of bioremediation of oil pollution, this strain is also an answer to the 9.1 billion tonnes of plastic. It has been experimentally proven that *p. putida* can biodegrade plastic at a rate of 75.3% by turning the surface of plastic from smooth to rough through cracking. His strategy of using microorganisms is a scientific advancement and a promising technology creating hope in preventing the post-effect of oil and plastic pollution before it's too late to fix it.

#### CONCLUSION:

The nature itself has the answer to all the problems, and one such is petroleum hydrocarbon-degrading bacteria which can be a promising technology to the post-effect to oil spillage/ waste water treatment and plastic pollution and an advance in the areas of bacterial remediation.



**Mr Nomaan Abdul Majeed**

*Nomaan is CMO of a unique triple baseline Startup iUmrah.world. He was invited as Guest & Speaker @UN Environment Assembly UNEA 4 for the startup www.iUmrah.world, which is world's first PAAS "Pilgrimage As A Service Platform". As a globally renowned Digital Transformation Consultant & Startup Entrepreneur, he believes in pursuing Startup UNICORNS & Adaptation to CHANGE. Nomaan delivers peerless value to projects with his past 2 decade expertise as Country Marketing Head for topnotch MNC's across multiple industries & cultures within Saudi Arabia/USA/India. Brands which he delivered quintessential excellence are Samsung, Sony Mobiles, Guess Watches & Jewellery, P&G perfumes & cosmetics, Kraft Foods, Nautica Watches, Sadia Chicken, Rainbow Milk, Harry Mason Jewellery, Citizen, Daawat Rice, Haldirams MopLeez and other White Labels. With a dual MBA in Marketing & International Business, he is also a Google Certified Professional. Nomaan has conceptualized & delivered unique Start-ups. His motto of life : " Good is not enough, We need to be GREAT ".*

Contact Details: nomaan@iUmrah.world

## 15. iUmrah - A Virtual Pilgrimage by Proxy - The New Normal.

Digital Transformation has driven the DIVINE NEED for PAAS - "Pilgrimage As A Service ". iUmrah.World is world's 1st Proxy Pilgrimage Startup with a unique "Triple Baseline Business Model" in "The Age of Digital Disruptions".

March 2020 changed the global pilgrimage business sector, across religions. The immense urge of performing pilgrimage in search of divine satisfaction, achieving "Transcendence", came to a standstill with the onset of Covid 19 pandemic.

iUmrah platform is a solution to the problem in " The New Normal". As CMO of startup, I believe there is a huge demand and supply gap with untapped potential. The solution is an out of the box startup, a pilgrimage by proxy.

With the advent of digital technologies AR,VR platforms bring "Solace with Grace " to pilgrims who perform virtual pilgrimage, an end to end solution that fulfills respective divine offerings REAL TIME with LIVE STREAM per se.

Amongst the Abrahamic religions of faith, iUmrah.world is a unique example of pilgrimage by proxy to offset the carbon footprint, whereby PAAS offers a triple baseline business model which is unrivalled in a blue ocean. (refAAS Business Model Image).

iUmrah is The New Normal with Speed to Market in the age of Digital Disruptions.

As technology enters into the 5G arena, more and more adaptations to change will happen as CHANGE is the only constant, rest all are temporary.

PASS will consistently come out from its evolution stage to fulfill the demand-supply gap. The Millennial Generations are going to adapt satisfaction of their innate beliefs and divine needs with digital revolutions. Early adapters -The Millennials, certainly will look forward to transform the Laggards on FAITH based compulsions. The Baby boomers, resistance to change can only be addressed with an endurance that brings home the luxury of virtual pilgrimage.

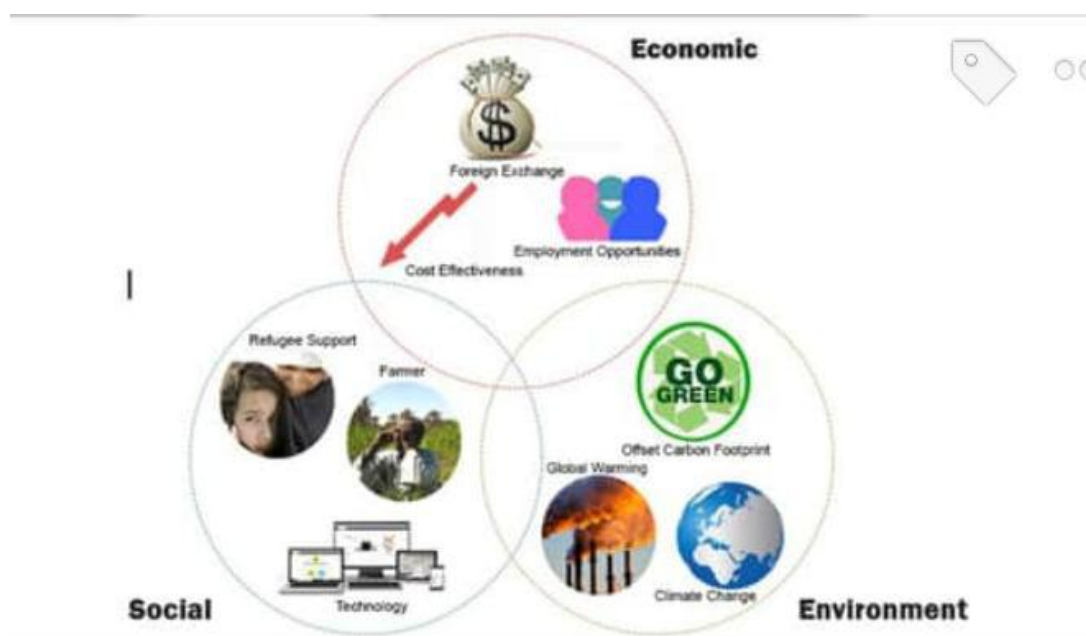
Nevertheless it is important to have every single element of FAITH to be addressed, whilst performing Virtual Pilgrimage. Having said that, there are No shortcuts to Pilgrimage, every single act should be in adherence to rituals and belief's.

Virtual Pilgrimage has been performed by individuals or by proxy for age's. The New Normal only increases the demand with a holistic approach for a "Feel Blessed" solution at home, watch it LIVE with AR/VR on your Television or Smartphones, it's just a call away !

iUmrah TBL - Triple Base Line Business Model is a Holistic Solution in RealTime for Industrial Revolution 4.0 with 3Ps FOCUS on :

1. People
2. Planet
3. Profit

It is model that drives a unique value proposition for sustainable businesses:. The main differentiators are social (people) ecosystem (planet) economy (profits).



In a post Covid 19 business environment, each of these three end values or "bottom lines" play a key role in overall Value Chain for any sustainable business pursuit.

We @iUmrah.world - PAAS believe that you can have the best of all worlds with Faith 4 Earth.

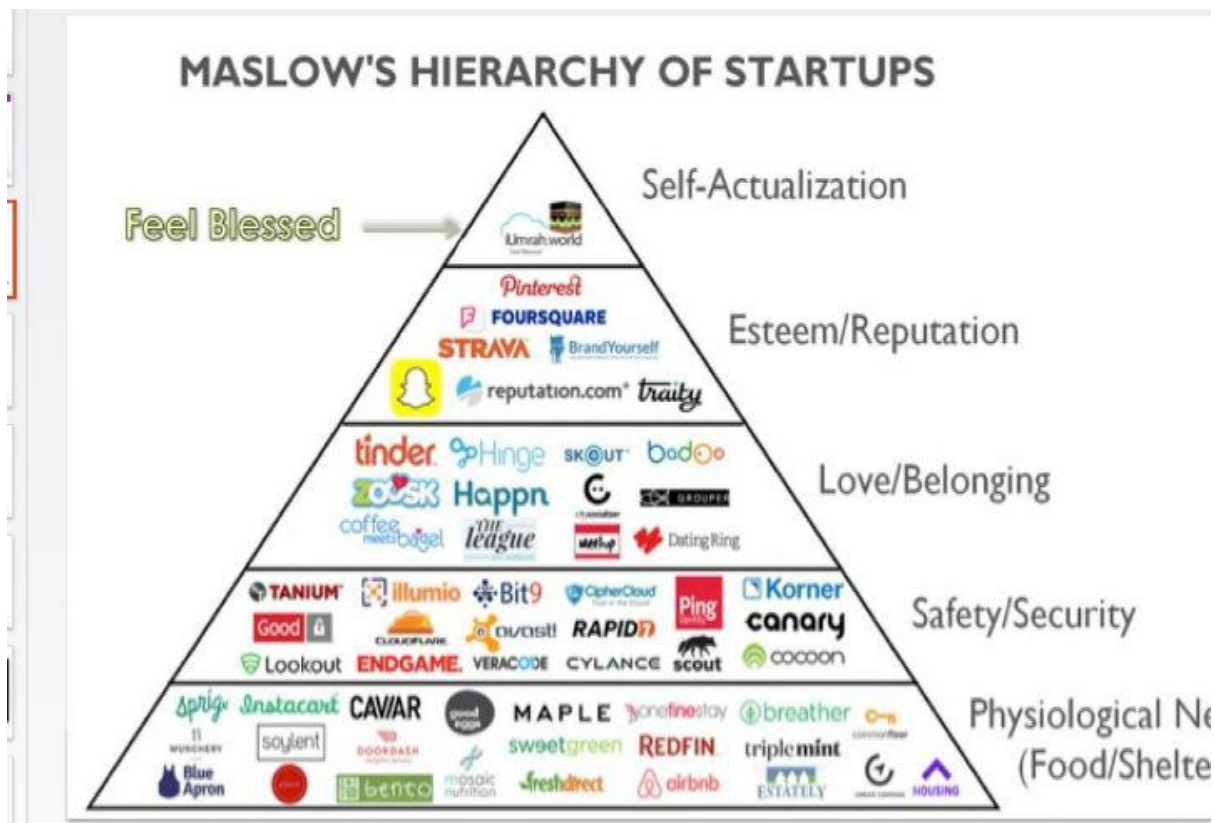
By adopting a concept of a triple bottom line in our business practices, we aim to address the following

People: Appreciating human capital and creating new service income opportunities that are sustainable and provide faster efficient green earnings above the per capita income to iUmrah Drivers in Holy city of Mecca.

Generate employment towards "EARNING GREEN INCOME".

Planet: Protect & SupportThe Earth's natural resources, including the ecology,"Trillion Trees" on earth are not adversely impacted by pilgrimage. Facilitation of Farmers CSR TRILLION TREES PROGRAM.

Profit: Sustainable Profits & Economic successes are not limited or unattainable by the pursuit of the other two values. Creation of " GLOBAL SALES PARTNERS in PROGRESS PLATFORM"







**Prof. Atul Kumar Agarwal**

*Prof. Atul Kumar Agarwal has experience of more than over 23 years of industry and academic experience. He has obtained his MBA (Marketing), M.Phil., M.S.W. and Ph.D. from Central University. His teaching interests are in the area of Strategic Management, Marketing management, Services Marketing, Brand Management, Rural Marketing and Sales & Distribution Management. During the course of time Prof. Agarwal has conducted many MDPs (Management Development Programs) at Grasim Industries Limited, Ultrapur Technologies Limited., Ordinance Factory- Dehradun etc. he has authored two books on Marketing Management and Data Base Management Systems and also written many study materials for Distance Learning Program of Pondicherry University (Central University). He has published more than two dozen research papers in reputed national and international journals.*

Contact Details : [atulkumaragarwal@ansaluniversity.edu.in](mailto:atulkumaragarwal@ansaluniversity.edu.in)



**Dr. Rajeev Srivastava**

*Dr. Rajeev Srivastava has experience of more than 16 years which include around 12 years in IMS Unison University, Dehradun as Dean IT and Head IT Department and as Head Decision Sciences Department in UPES Dehradun.*

*Expertise in subjects like Data Visualisation using Tableau, Machine Learning using WEKA, Big Data Analytics using MongoDB. Involved in teaching, research and administration for last 16 years. Published more than 30 publications which include Research Papers in Scopus, International and National Journals. Many paper accepted in reputed Conference like PAN IIM and AMCIS (American conference of Information system). Organized many Conferences, Seminars; FDP's as Coordinator and Chaired many sessions at the Conferences. Reviewer of many International and National Journals. Conducted full day sessions on "ML and IT related issues" in many organisation like OIL Assam, HPCL Pune. Signed MOU with many organizations like Oracle University, NIIT, HPES etc. Completed various certifications from Coursera, edX, Google Analytics Academy.*

Contact Details: [rsrivastava@ddn.upes.ac.in](mailto:rsrivastava@ddn.upes.ac.in)

## 16. To Develop a Model for Contact Lenses Recommendation

**Abstract-** Today, contact lenses are promising to become far more than simply devices for refractive correction. Much of the leading-edge research involving contact lenses is focused on putting them to additional uses: for example, using them to monitor key biological markers in the eye or the body, or to deliver medications to the eye. This paper is trying to predict whether a contact lens recommended to the customer suffering from eye sight problem and if suggested which type of lens hard lens or soft lens.

**Keywords-** Classification, J48, Machine Learning, Contact lenses, Weka

### Introduction

With the help of contact lenses, it can sometimes be impossible to tell whether someone has a visual impairment or not. These lenses can make huge differences to the lives of their wearers, providing a certain level of freedom that traditional glasses are unable to. According to the Centers for Disease

Control and Prevention (CDC), around 41 million people in the US wear contact lenses. The soft contact lenses currently worn by an estimated 93% of contact lens wearers were first introduced in 1971. This paper is trying to predict whether a particular consumer suffering from eye sight problem need to recommend contact lenses and if yes which type of contact lenses.

### Literature Review

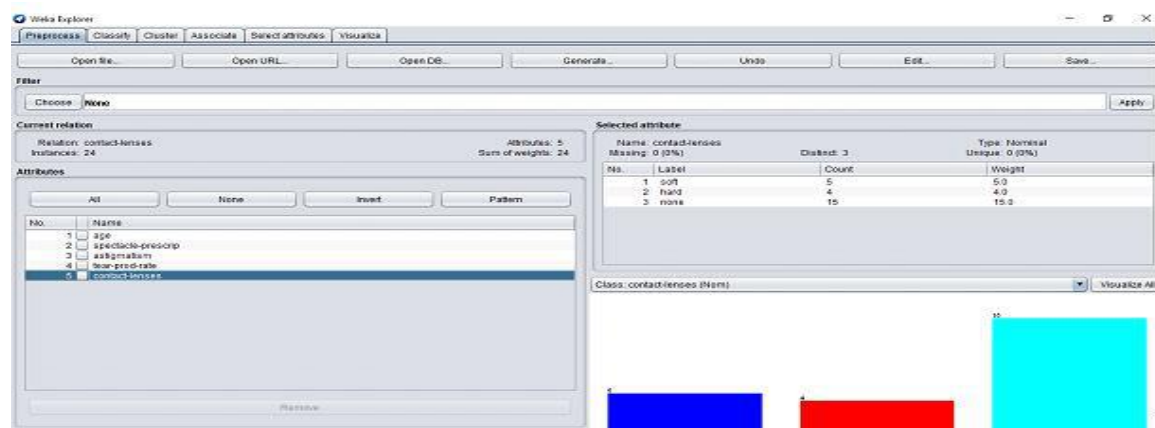
Recent years have been marked by dramatic increases in the prevalence of myopia worldwide (Kempen et al., 2004), reaching near epidemic proportions in many urban Asian communities. In East Asia, nearly 50% of urban populations are myopic, and the prevalence figure for university student populations is approximately 90% (Morgan et al., 2005 and Saw et al. 2005). The rate of progression of myopia is fastest among young children with an approximate rate of 0.50 D per year across various ethnicity groups (Saw et al., 2005 and Zhu et al., 2014). The Centre for Contact Lens Research in Waterloo, Canada, assess the visual and optical performance of silicone hydrogel lenses in patients with myopia  $\geq -3.0D$  in scotopic conditions (Kier et al., 2010).

### Methodology

In this paper data related to recommendation for contact lenses was used, which consist of records or instances collected from different hospitals recommending contact lenses to the consumer suffering from eye sight problems. From this data, five attributes were selected details of which is given in Table I. Weka Machine learning software is used to develop a Classification Model for contact lenses recommendation to the consumer suffering from eye sight problem. Detail of different attributes along with class attribute "Contact-Lenses" is shown in Table. 1.

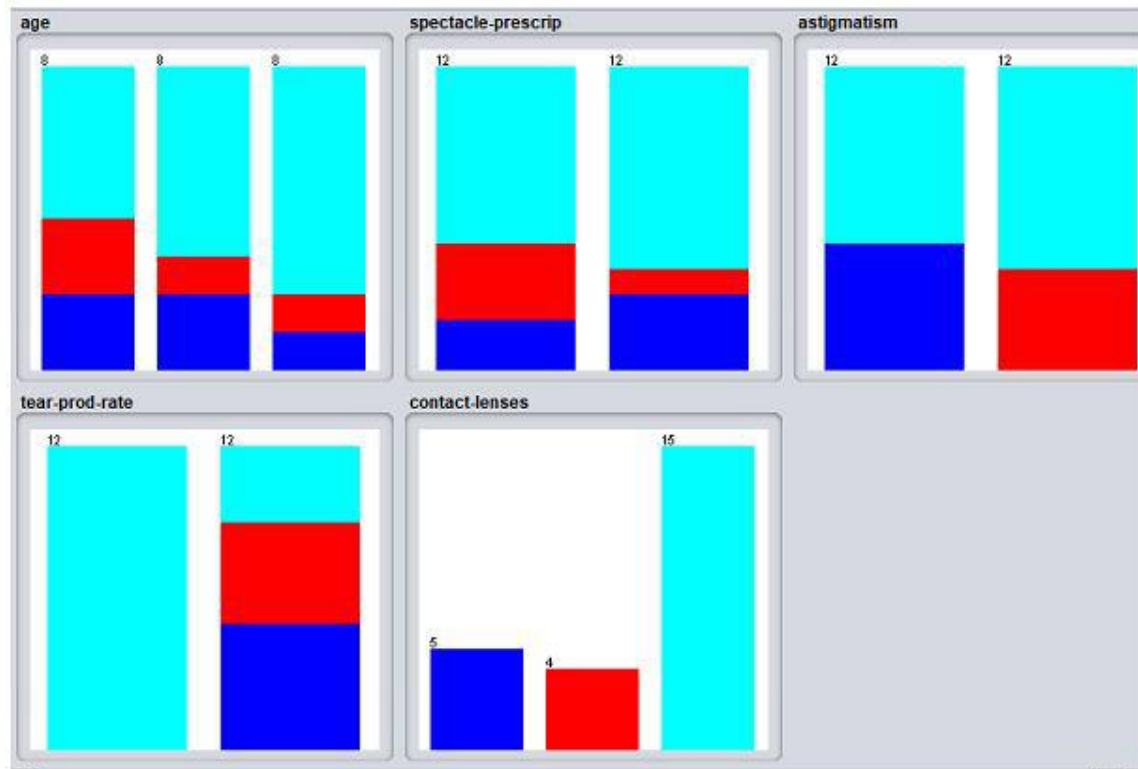
**Table I: Attributes and their description**

Attribute Name	Description of Attribute
Age	age of the patient (young, pre-presbyopic, presbyopic)
Spectacle-prescrip	spectacle prescription ( myope, hypermetrope )
Astigmatism	astigmatic ( no, yes )
Tear-prod-rate	tear production rate ( reduced, normal )
Contact-lenses	{soft, hard, none} soft: soft contact lenses, Hard : hard contact lenses, none : no contact lenses.



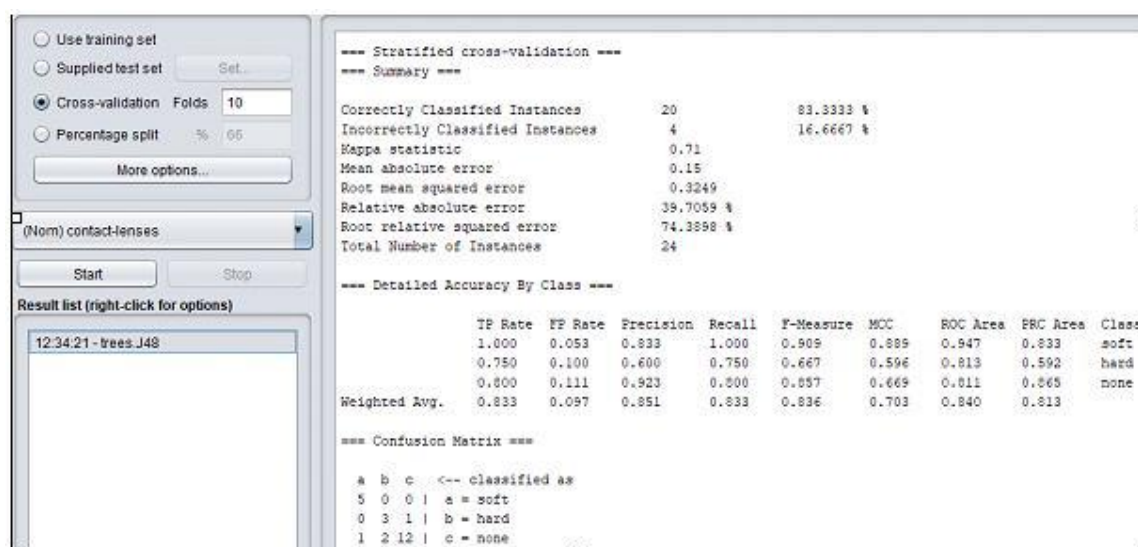
**Fig. 1: Detail of attributes in Weka software**

The visualization of all attributes is shown in Fig. 2. In which blue color (Dark shed) is showing the proportion of “soft” label, red color(Light shed) is showing proportion of “hard” label and sky blue is showing “No” label for the class attribute “contact-lenses”.



**Fig. 2: Visualisation of attributes**

The result of J48 classification algorithm is shown in Fig. 3. Which indicate 83.3 percentage of correctly classified instance and 16.6 percent incorrectly classified instances. The decision tree or predictive model obtained after applying J48 classification algorithm is shown in Fig. 4.



**Fig. 3: Result of J48 classification algorithm**

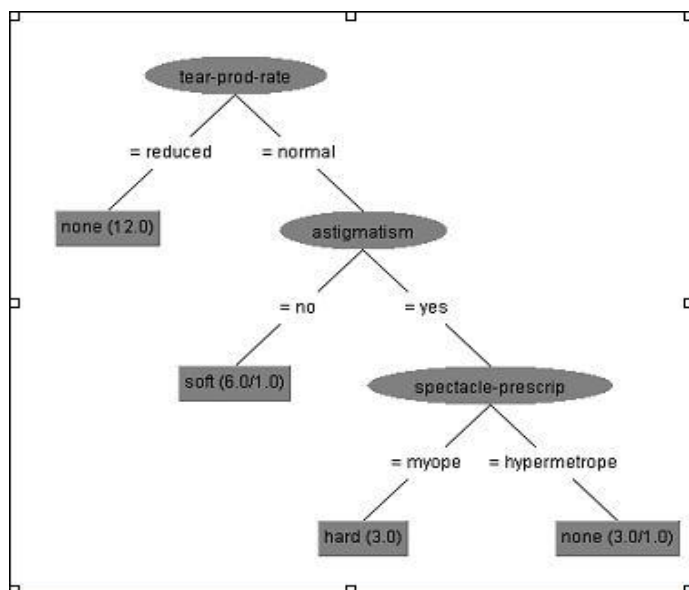


Fig. 4: Decision tree (Predictive Model)

## FINDINGS

On applying J48 algorithm, the correctly classified instances, which tells us about the accuracy of the model is 83.3% and incorrectly classified instances are 16.6%. We observe that accuracy of about 83% is way too sufficient to prove that the model is good. If the tear-prod-rate=reduces then model recommend “no” lens to the customer. If the tear-prod-rate=normal and astigmatism=no then model recommend “soft” lens to the customer and finally If the tear-prod-rate=normal, astigmatism=no and spectacle-prescrip = myope then model recommend “hard” lens to the customer.

## CONCLUSION

The final conclusion of the study is that the predicted model is good as its accuracy is 83.3%. The major contribution of the attributes deciding which type of lens recommended to the customer are tear-prod-rate, astigmatism. So finally we can say that the predicted model is good to take decision related to the prediction of which type of lens should be recommended to the customer suffering from eye sight problem. However, for better results more data can be taken as training data or test data set.

## References

- Kempen JH, Mitchell P, Lee KE, et al.. The prevalence of refractive errors among adults in the United States, Western Europe, and Australia. Arch Ophthalmol 2004;122:495–505.
- Morgan I, Rose K. How genetic is school myopia? Prog Retin Eye Res 2005;24:1–38.
- Saw SM, Tong L, Chua WH, et al.. Incidence and progression of myopia in Singaporean school children. Invest Ophthalmol Vis Sci 2005;46:51–57.
- Zhu MJ, Feng HY, He XG, et al.. The control effect of orthokeratology on axial length elongation in Chinese children with myopia. BMC Ophthalmol 2014;14:141.
- Saw SM, Gazzard G, Shih-Yen EC, et al.. Myopia and associated pathological complications. Ophthalmic Physiol Opt 2005;25:381–391.
- S. Kilvington, L. Huang, E. Kao, C.H. Powel. Development of a new contact lens multipurpose solution: Comparative analysis of microbiological, biological and clinical performance. J Optom., 3 (2010), pp. 133-141



- M.D.P. Willcox, E.B.H. Hume, A.K. Vijay, R. Petcavich. Ability of silverimpregnated contact lenses to control microbial growth and colonization. J Optom., 3 (2010), pp. 142-147
- N. Kier, T. Simpson, D. Fonn. Visual and optical performance of silicone hydrogel contact lenses for moderate myopia. J Optom., 3 (2010), pp. 149-157

The research in biotechnology has suffered immense loss during COVID 19 outbreak. According to the FDA standards, a drug or medical device should require efficacy and safety and must perform at least just as well as existing alternatives or better and this blocks disruptive innovations. But since the Covid-19 came into the picture, biotech companies are racing to find a cure. The profit motives and regulatory barriers are falling by the wayside due to the pressure of a global pandemic. High levels of risk are being accepted by regulators. For example, the Covid-19 vaccine by Moderna is being tested in human volunteers even before its trial in animals, against the usual order. Under ordinary circumstances, the safety and efficacy of a new drug or medical device need to be assured. But the corona virus pandemic is forcing researchers and investigators to try things and do what they would never do in ordinary circumstances.

The impact of Covid-19 has brought changes in how research is done. The researchers will learn something important during this unfavourable period. They could know if regulators were right and disruptive innovation is wrong or if medical science has advanced far enough to develop treatments and vaccines for new diseases in very less time than normal.

COVID-19 has currently spread to 181 countries and most national authorities have failed to keep its rapid spread contained. To date, the world wide statistics of its reported cases show more than 80% of infected had a mild case of disease, whereas around 14% of infected experienced a severe one, suffering from breathlessness and pneumonia. About 5% are categorized as critical disease patients their symptoms include septic shock, respiratory failure, and the failure of more than one organ. The overall statistics since 5th April, 2020 shows that there are 1197405 confirmed, 64606 deaths, and 243572 recovered cases, overall. Almost all areas of our daily lives have been almost halted, and science has been no exception.

Yet, these changes have benefited some other research activities, particularly in critical areas of biotechnology research. This new and unusual environment could serve as a tremendous opportunity for highly motivated researchers. These unusual circumstances have importantly opened new avenues for biotechnologists to pursue new ideas for discovery such as developing vaccines and monoclonal antibodies, and screening antiviral compounds, such as secondary metabolites and peptides, thereby actively participating in finding solutions to ongoing real-time global human and economic crises. As a result, various leading global biotechnological laboratories have taken action and started manufacturing a detection kit using the lab on Chip technology, which combines two molecular applications: polymerase chain reaction (PCR) and microarray. These two applications have high specificity and sensitivity to distinguish the COVID-19 strain from the SARS or MERS strains. A 5G remote diagnosis technique is being used to detect infected zones with corona virus outbreak and in faster detection of infected cases. There are three distinct phases for Covid 19 infection and are observed in people who tested positive for this deadly disease.

In Phase I, virus replicates inside the body and likely to cause mild symptoms that may be confused with common cold or flu. In Phase II, host's immune system becomes strongly affected by infection and leads to primarily respiratory symptoms such as persistence cough, shortness of breath and low oxygen levels. Problems with blood clotting are also noted predominant in second phase. In Phase III, immune system becomes hyperactive which causes injury to heart, kidneys and other organs. This phase is called hyper-inflammatory phase where a cytokine storm occurs in which the body attacks its own tissues.





**Convalescent plasma treatment-**In the current situation, antibody-containing plasma from a recovered patient is given by transfusion to a patient who is suffering from COVID-19 infection. The donor antibodies help the patient fight the illness, possibly shortening the length or reducing the severity of the disease. In order to donate blood plasma, the person have to have tested positive for COVID 19, recovered and have no symptoms for 14 days. Blood types of donor and patient must also have to be compatible.

**Antiviral Treatment-** Currently there is no specific antiviral treatment for COVID-19 because viruses reproduce very rapidly. They have plenty of opportunity to mutate (change their genetic information) with each new generation and potentially develop resistance to whatever drugs or vaccines being developed.

However, some antibiotics which are tested effective for other treating other viral diseases such as Ibuprofen, hydroxychloroquine, azithromycin, remdesivir and high doses of Vitamin C (along with thiamine and corticosteroids) being prescribed to the patients suffering with early phase of COVID 19 infection as a preventive measure. Some other inflammation fighting drugs like tocilizamab and sarilumab are being used to help reduce system wide inflammation in Phase I and II. According to the researchers, an anticlotting heparin is important during any stage of the disease to prevent blood clots in blood vessels and capillaries but it is cautioned that there are no drugs proven to treat COVID 19.

As spread of the COVID 19 continues, communities are being asked to reducing close contact between people by social distancing and by self quarantine when the symptoms of the disease shows up in a person. It is important to follow the social distancing norms in a community order to reducing the spread of COVID 19 whether that community is one of the high risk groups or not.



**Ms. G.S. Devi Shri**

*She is currently a student of Swamy Vivekanandha College Of Pharmacy, TamilNadu. Pursuing Doctor Of Pharmacy (Pharm D).*

*Contact Details: devishridsp@gmail.com*



**Ms. V. Akila**

*She is currently a student of Swamy Vivekanandha College Of Pharmacy, TamilNadu. Pursuing Doctor Of Pharmacy (Pharm D).*

*Contact Details: akilananthini1998@gmail.com*

## 17. Adverse drug reactions (adr) of anticancer drugs in oncology department

### Introduction:

- Adverse drug reaction is known to be a "harmful or dangerous reaction caused by administration of a drug, either by single dose or multiple dose during the prolonged therapy."
- Anticancer drugs are also called anti-neoplastic drugs or chemotherapy. The drug is used to kill cancer cells or to stop them from growing and spreading to other parts of the body.

### Classification of anticancer drugs:

S.NO	CLASSIFICATION	DRUG NAME
1.	Alkylating agent	Cyclophosphamide, Chlorambucil.
2.	Antimetabolites	6-Mercaptopurine, Methotrexate.
3.	Antitumour antibiotics	Actinomycin D, Bleomycins.
4.	Plant alkaloids	Vincristine, Vinblastine.
5.	Hormonal agents	Prednisolone, Tarnoxifen.
6.	Miscellaneous agents	Hydroxyurea.

### GENERAL ADVERSE REACTION OF ANTICANCER DRUGS :

- Bone marrow suppression.
- Teratogenicity.
- Alopecia.
- Hyperuricemia.
- Various organ damage : Pulmonary, Renal, Hepatic, Brain.
- Nausea and vomiting.

### THE STANDARD ADVERSE REACTION (ADR) ASSESSMENT SCALES :

The scales are

- Naranjo Scale.
- WHO -UMC Scale.
- Hartwig scale.

#### Benefits of scale :

- This scale is used to detect drug effectiveness and suspected reactions.

#### Naranjo Algorithm:

S.NO	QUESTION	YES	NO	Don't know
1.	Are the previous conclusive reports on this reaction?	+1	0	0
2.	Did the adverse event appear the suspected drug was administered?	+2	-1	0
3.	Did the adverse reaction improve when the drug was discontinued or a specific antagonist was administered?	+1	0	0
4.	Did the adverse reaction re appear when the drug was re-administered ?	+2	-1	0
5.	Are there any alternative causes (other than the drug) that could on their own have caused the reaction?	-1	+2	0
6.	Did the reaction re appear when placebo was given?	-1	+1	0
7.	Was the drug detected in the blood (or other fluids) in concentration known to be toxic?	+1	0	0

#### An example for adverse drug reaction of anticancer drugs :

##### A CASE STUDY OF ANTICANCER DRUG INDUCED NEUROLOGICAL DISORDER -

The aim of the study is to monitor the adverse drug reaction of anticancer drugs in the department of clinical pharmacology and medical oncology, The Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER), Pondicherry, India. The study was conducted for a period of 21 months from January 2012 to September 2013. The WHO Scale was used for causality assessment and the Hartwig scale was used for severity assessment. The total of 1076 patients was enrolled in the study from which 1418 adverse drug reactions was obtained. Totally 77 patients were developed 84(5.9%) neurological ADRs from which 35 were female (54.5%) and 42 were male (54.5%). The age of the patients from 5 to 71 years. The treatment was given to the patient for leukaemia, Hodgkins lymphoma, multiple myeloma, stomach cancer, colon cancer and breast cancer. Among the individual drugs CAPOX (Capecitabine and Oxaliplatin ) was the drug implicated causing ADR. The most commonly reported ADR was Neuropathy (72.6%).

#### Conclusion :

As we discussed adverse reactions of anticancer drugs. So, the cancer patient those who are consuming or treating with anticancer drugs should be monitored closely. unless it will lead to a complication or even death. To minimize such kind of ADRs, the healthcare professionals should have firm knowledge and awareness about the ADRs of anticancer drugs. Because nowadays ADR has become a great concern among the public as well as medical professionals. So, early detection and evaluation of ADR of antineoplastic drugs are essential in order to reduce the severity of ADRs and also will improve patient quality of life.



**Ms Rashmi Malik**

*Ms. Rashmi Malik is Master in Information Technology, with over 25 years of experience in education field, she is known for successfully blending IT Skills and Spirituality in the school system for all stakeholders. Currently working as Principal of Salwan Public School, Gurugram, she is a firm believer that the education is a Dynamic process wherein with the changing world and generation a lot of flexibility should be provided in schools and colleges to promote innovations for the benefit of humanity. Ms Malik has been instrumental in starting the internship programmes in school for various skill based courses. These internships and skill based trainings of varied subjects offered by CBSE have proved to be a boon for the students especially for special need ones. She has won various awards for usage of Social Media and innovative practices in school education, her belief of ensuring teachers taking up complete responsibility of students results by using non threatening Assessments FOR Learning has been improving the teaching learning process and leading to joyful environment in the school. All the innovative practices are ensuring excellent results across the school especially in Board Examinations and holistic development of students.*

*Contact Details: [principal.spsgurugram@salwanschools.com](mailto:principal.spsgurugram@salwanschools.com)*

## 18. Moving Towards Skill Oriented Education in India

### Background:

Most of the schools in the age-old Indian system of education have been the traditional Brick & Mortar ones. During the pre- independence Industrial Era, the demand of the Industry drove a kind of education that spawned skilled workforce and English-speaking clerks. Post Independence, the systems continued to flourish and despite many interventions and measures by various governments, the conventional modus operandi prevailed unabated in the school systems that its 'demand and supply' equation with the industry became a thing of the past. The Industry marched ahead at a brisk pace whereas education growth stalled due to policy paralysis. This is the reason why today the well-educated graduates fail to adjust in the industry and required to be trained, which leads to huge wastage of precious time, efforts and resources of nation.

Although the New Education Policy (NEP) which was recently launched encapsulates many points related to the above issue, but it won't be efficacious if the educational institutes do not work closely with the industry. Ideally, the industry should be opening up for the students right from the age when they are studying in class XI so as to provide them due exposure and acclimatization.

Nowadays, the coaching centres, in their unsatiated lust for making money, lure even the academically mediocre child who may not have the knack for engineering, with a bait of bright future as an engineer. Consequently, this lands the poor child into a substandard engineering college and then to a workplace where the engineering knowledge may or may not be of any utility. The brilliant ones who reach the coveted institutes like IITs also discover their innate talent later and end up choosing completely different job/business which has nothing to do with engineering, with one of the examples being of an IITian setting up a Playschool. The question is if they were to become non-technical entrepreneurs, why then they unnecessarily wasted seats in engineering colleges which were meant for the students who had interest in the industry. The mismatch and undiscovered



talents and passions in the growing-up years is leading to these disasters and as a result, the industry has to bear with inefficient and mediocre workforce.

The infallible remedy to the mismatch is **“catch them young”**. Now is the time for the industry to work in tandem with the educational institutes of the local areas, discover the passionate and suitable minds through series of tests or interviews over a span of two years in the school and then taking the selected ones in their folds for their suitable graduation and post graduation courses with internships. Every industry in association with local schools and colleges should create a skill hub wherein as per a set calendar the talents should be recognized and taken on board. This kind of arrangement will slowly but steadily plug the gaps and lead to a better skilled workforce with longer tenure preventing any wastage of time after graduation and the student will be industry ready much earlier.

Although the IT industry is taking a fair lead in a similar kind of arrangement wherein the students are encouraged to take up post graduation courses along with work in a company, but there is still a lot to be done in other types of businesses.

#### **Proposed Idea:**

To achieve the above tie-ups, the government and the various school education boards need to relax various norms to boost skill development.

The concept of Home Schooling is being talked about widely now, especially during the Corona Pandemic times. As most of the education has moved on to the online mode, it's worthwhile for people to recognize the power of digital platforms for education. The time has come where to build a skilled and 21<sup>st</sup> century ready workforce, we need to embrace a paradigm shift from Brick and Mortar to **Brick & Portal** schools. The Brick & Portal Schools will be able to offer online classes during the week and allow students to use campus for structured integrated activities and sports projects on weekends, something which is similar to the non-collegiate pattern of Delhi University. The boards can take these students as private candidates or regulars depending upon whether the student is associated with an industry for internship and certifications or not. This kind of arrangement will prove to be a great success with a structured selection and skilling process, preferably in classes XI and XII with relaxed board exam norms, wherein the child will get certification for class XII from school board and credits from the associated industry can be considered for admission in higher education.

With the new education policy in place, it's high time that we must prune plus overhaul the existing system with a clear and decisive focus on basic education till class X wherein the child learns all socio-emotion based education to develop 21<sup>st</sup> century skills and from class XI onwards, shifts the focus on the education based on skills and industry internships for which the child's passion and flair has been identified. The internships can be done during school vacations to impart a hang of the chosen industry. Local associations are only to be encouraged except in the industries or work which can be done online. The higher education institutes should give consideration to the credits earned by students in internships along with the entrance exams at par with those students who are following pure academics for admission. This will certainly curb the race for marks in board exams.

To start with, both **Brick & Mortar** as well as **Brick & Portal** schools should work in close coordination to facilitate smooth transition. We must keep in mind that education can never be static, its nature is essentially dynamic. So, now is the time to shake-up the stagnation in the system and do some experimentation to create more dynamics and pragmatism in education for the long-term interest of our nation. Skill India with the underpinnings of Dynamic Education will surely be a game changer in making our nation a paragon of excellence.





Mr. Brajesh Gupta

Mr. Brajesh Gupta is a development professional with an experience of 20 years working in the spectrum of Community Development & CSR. He is leading the GMR Varalakshmi Foundation (CSR Arm of GMR Group) at Delhi and heading CSR of Delhi International Airport Ltd. He has handled CSR of Chhattisgarh Thermal Power Project from inception till commissioning. Stemming from his academic strengths in Agricultural science as M.Sc. (Ag), he took significant positions at CRS India (Catholic Relief Services) a globally known name in community service and social development. He has worked in close coordination with agencies like NABARD, ISRO, ICRISAT, DFID and USAID. Brajesh Has published more than 16 research papers in national and international journals. He has also published technical bulletin on watershed develop

Contact Details: Brajesh.Gupta@gmrgroup.in

## 19. Strengthening Access to Hygiene & Empowering Ladies through Income (SAHELI)

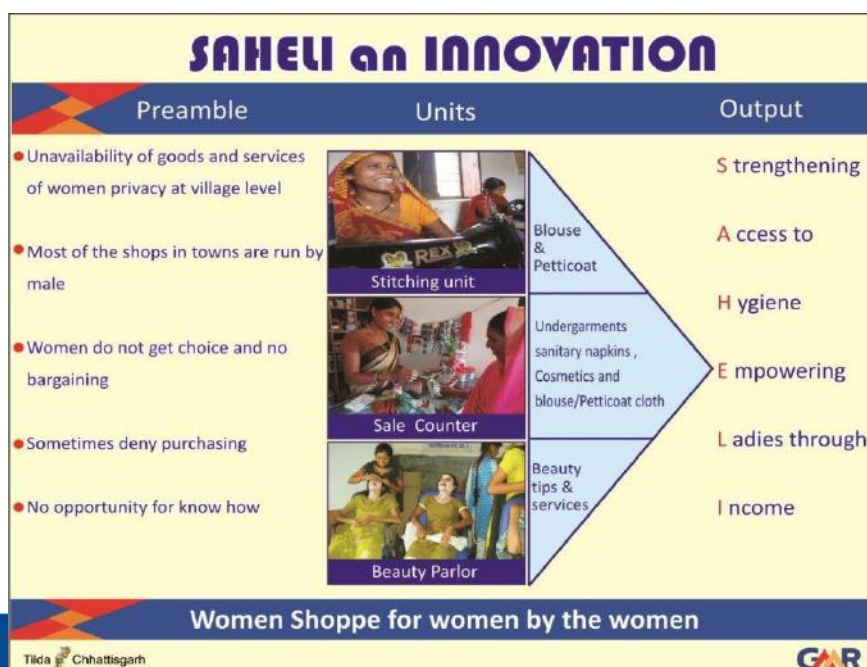
**Concept:** SAHELI is an initiative to enhance access to services & goods for personal hygiene and privacy of rural women and generate income for associated women.

**Background:** GMR Varalakshmi Foundation started its community services activities in the project affected villages (Raikheda, Gaitera & Chicholi) of Chhattisgarh Thermal Power Project at Tilda block in Raipur district of Chhattisgarh in 2009 under the mandated thrust areas of Education, Health, Hygiene & Sanitation and Empowerment & Livelihoods. Women Self Help Groups were promoted in the target villages for women empowerment. While working with women, GMRVF team learnt that there is unavailability of services & goods of women hygiene & privacy and they were dependent on Tilda market for accessing the desired products. Very limited shops use to sell the women hygiene & privacy related products run by male in such small towns. When a women from village approach these shops to buy products of her usage, she did not get any choice and could not bargain on price & also could not discuss in detail about the product as the shop is usually run by male and sometimes these women even avoid buying the products due to shyness. After noticing these facts, GMRVF team brain stormed on many ideas to enhance access to the products of personal hygiene & women privacy in the villages resolving the above cited issues and came up with an innovative solution named as SAHELI in 2012 and implemented in three villages till 2015.

### Initiative Details:

**SAHELI Unit** is a three corner concept comprised of Sale Counter, Stitching Counter & Beauty Parlour.

**Sale Counter:** Two women are engaged to run the counter. It can have products related to



women privacy like under garments, sanitary napkins, cosmetics and sanitation products like harpic, phenyl, sanitizers and masks can be added now. Cloth for stitching petticoat & blouses. It can also have baby kits but should not sell any edibles. Hygiene products are to be supplemented with IEC on women reproductive health.

**Stitching Counter:** This unit engages one women tailor trained and experienced in stitching blouses & petticoats. It should not take orders for stitching other garments and orders to be delivered on agreed date of delivery.

**Beauty Parlour:** This unit also engages one trained women beautician from the village itself. The unit should have salon chair, mirror and beautician kit. Engaged women can be allowed to take bridal make up orders as well.

**Common Interest Group (CIG):** Group of four women form CIG and open bank account for transactions and availing loans for working capital. One women should be a tailor, two should be able to handle the procurement & sale and one should be trained beautician. All should come from similar socio economic background.

**Premises:** Two rooms of 250-300 sq feet is enough to run a SAHELI unit. One room to be used as Sale counter and another can accommodate Stitching & Beauty Parlour. It is preferred to get the space in a public property so that users can come without hesitation in a village culture. The unit should be operated only during day. Both the rooms should have enough IEC displayed on women reproductive health and personal hygiene practices.

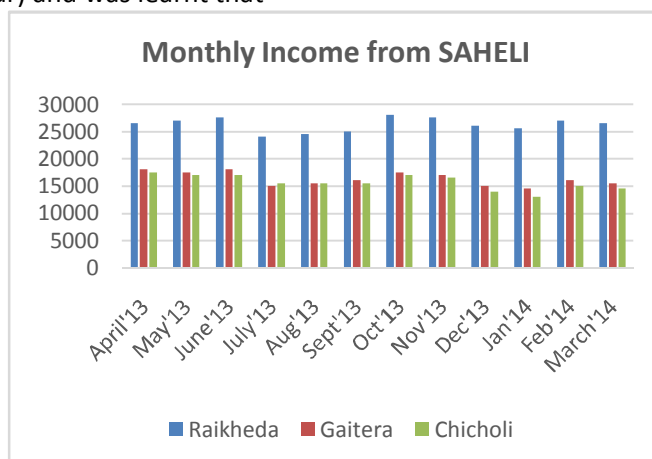
**Capacity Building:** CIG members are to be trained on Entrepreneurship and book keeping. Also they need to be trained on Reproductive Health & Personal Hygiene.

**Initial Support:** The facilitating agency should support in CIG formation, capacity building, and initial set up cost (Appx one lakh for three corners of SAHELI unit) and should hand hold for six months.

**SAHELI an Innovation:** The initiative is considered as an innovation as it improves access to products of women hygiene & privacy and generates awareness on reproductive health among the users. It's self-sustainable as income generation is inherent component and requires least supervision once the initiative is established.

**Impact:** After three years of initiating the intervention, impact of the initiative was studied involving third party (GPR Strategies & Solutions, Raipur) and was learnt that

- It added income to the engaged women directly engaged with the initiative in the range of Rs.18 to 20 thousand per month hence, Rs.4-5 thousand per women per month.
- Sanitary napkin users increased by 23% in the villages having established SAHELI in comparison to non SAHELI villages
- Above 60% adolescent girls started using beauty tips & services
- More than 50% women





respondents shared that they have stopped going to nearby town market hence, saving travel time and expenses

**Sustainability & Replicability:** The initiative is self-sustainable as women directly engaged generate the income. Sustainability can further be ensured if the premise used is provided by the village panchayat so that women from across castes & categories can visit the facility and CIG can save rentals on the premises hiring. SAHELI is replicable in villages especially having population more than 5000 so that numbers of buyers/users remains enough to sustain the enterprise.

**Conclusion:** SAHELI is a true friend for village women of all age groups. It enhances access to hygiene and products of women privacy and is good tool to empower women through income generation. As the sustainability is inherent, it can be replicated in large numbers in rural India.



**Ms. Disha Agarwal**

*Disha Agarwal, is currently enrolled at the University of Sydney pursuing Master of Commerce in Business Analytics and International Business. She is in her final semester and have developed a huge understanding of the business in an International context. She has previously completed her Bachelors honors in a dual degree course of Economics and Business Studies. She is highly interested in understanding the economic situation of the countries and research deeply on the policies which are being implemented. I am anxious in researching critically related to the economics and business fields.*

Contact Details: [agarwal.dishaa@gmail.com](mailto:agarwal.dishaa@gmail.com)

## 20. Aatma Nirbhar Bharat: Does Not Mean Trade Isolation

As the Indian economy is in an unlock stage and fighting the pandemic with the utmost strength, India has found an underlying opportunity. This highlighted chance of focusing on domestic production and providing the pin code to the companies to manufacture in India will not only lead to a catalyzed economic recovery but also allow India to emerge out in the world as a leader. As unpredictability has dampened the confidence of consumers and potential investment opportunities for the businessmen, India has to not only recovered from deadly epidemic but to drive into a stronger position.

Aatma Nirbhar Bharat scheme with its pillars laid on infrastructure, demography, economy, demand and system have laid the path for Indian revival, making it resilient, self-sufficient and self-reliant. However, in the recent progression, conflicts have risen over import substitution which is an ideology reflecting back to the Nehru era which would adversely impact the Indian economy. (Online, 2020) . The slogan of 'Vocal for Local' focuses on making India the center of nervous system of the supply chain across the world which is the best that India can grab during a post-pandemic world. (Roche, 2020).

Aatma Nirbhar Bharat scheme does not aim to isolate India from international trade and prevent imports into the country but to boost the domestic manufacturing. This epidemic has made every country realize the importance of being independent in manufacturing as this uncertainty can occur anytime in future. Similarly, in the awakening of making India self-reliant, several schemes were introduced to make India an attractive opportunity for the domestic companies to grow. Collateral free loans for all businesses including MSMEs were the key factor in catalyzing the process of boosting the economy as it provided optimism to the businesses. Privatization of public sector enterprises would also encourage minimal costs and a more efficient way of doing businesses. ("prs", 2020). India should take an advantage of its policy of extended credit borrowings to allow them to produce more domestically.

Policies of being an Aatma Nirbhar Bharat are a gateway for India to become economically independent. Increased domestic production would increase employment rates in the economy as higher opportunities are available. This would bring social security for the people and hence, decreasing the crime rates. Moreover, increasing domestic manufacturing would promote 'Make in India' and allow growing investments and production. This would increase GDP in the economy and



allow India to revive. One of the main pathways to avoid as discussed in India is about taking the trade isolation route which involves import substitution.

This economic nationalism route would be proven to be highly disadvantageous for the citizens as this economic nationalism would only promote domestic consumption. Hence, the citizens would be made to consume the highly priced domestically produced or lesser efficient goods and services which would make the consumers worse off. Hence, it's crucial to avoid such a situation and instead India should take this opportunity to improve its trade position.

Keeping up with the international trade and domestic production would allow the country to identify its strongest domestic sectors and work towards making it more efficient and stronger, allowing them to produce more and export worldwide. This would provide the consumers a wide variety of choices to consume the best product, whether imported or domestically produced. This would overall enhance the trade position of the economy, reducing the deficit, and in turn improving the balance of payments position. This can be referred to a classic example of boosting the agricultural sector of India as it has always been the net exporter of agricultural products and hence, Aatma Nirbhar Bharat plans to boost the sector and allows them to gain competitive advantage by enhancing their productivity. (Gulati, 2020). This journey of becoming an independent country would bring in innovation and entrepreneurship.

Effective trade agreements and policies with other countries would allow India to provide the pin code for the majority of companies to divert their manufacturing to India which would provide more economic benefit and hence, not only revive but emerge as a superpower. Becoming a center for the supply chain network to the whole world could be viewed as numerous companies have already shifted their manufacturing to India. Apple, one of the largest tech companies, have started manufacturing iPhone 11 in India which is one of the major steppingstones leading to the success. (Desk.T, 2020). Another shoe company from Germany has shifted its major production to India, driving it to be a global leader. (Business Insider, 2020). Adding to the increasing list of companies attracted to India, Microsoft has also expanded its footprint in India by launching its center in the country. (Bureau.F, 2020). All these would collectively contribute towards developing the country by expanding the employment opportunities, innovation and research and development.

India is not leaving any stone unturned to drive itself as the winner and a platform for the companies to successfully perform businesses. It has finalized several free trade agreements with other countries like strengthening economic ties with the UK. (Times of India, 2020).

India is also looking for an economic trade quadrilateral deal with USA, Japan and Australia. These free trade arrangements would further boost the economy.

As Aatma Nirbhar Bharat has a new awakening, we could conclude by suggesting that India should not be trade isolating itself whereas, work efficiently by producing domestically and allowing settling up of manufacturing units to be the center of supply chain network. Free trade agreements and all these initiatives of Aatma Nirbhar Bharat would collectively help India embark its historic success in the post-pandemic world and call 21<sup>st</sup> century as its own. This would be possible by the economic revival through boosting employment, efficient domestic production, increasing GDP, exporting more quantity, being the worldwide supplier and hence improving balance of payments position. All this lay the foundation for India's success and have a multiplier positive impact on the Indian economy driving not only self-reliance but project a sustainable growth trajectory.





### References ( APA 6<sup>th</sup> Style)-

- Online, F. (2020). Atmanirbhar Bharat not about import substitution; here's what the Modi's self-reliant India means. Retrieved 25 July 2020, from <https://www.financialexpress.com/economy/atmanirbhar-bharat-not-about-import-substitution-heres-what-the-modis-self-reliant-india-means/1983347/>
- Roche, E. (2020). Atmanirbhar Bharat aims to make India into global nerve centre of supply chains. Retrieved 25 July 2020, from <https://www.livemint.com/news/india/atmanirbhar-bharat-aims-to-make-india-into-global-nerve-centre-of-supply-chains-11595589002975.html>
- Prs (2020). Retrieved 25 July 2020, from <https://www.prsindia.org/report-summaries/summary-announcements-aatma-nirbhar-bharat-abhiyaan>
- Gulati, A. (2020). Explained Ideas: What Aatma Nirbhar Bharat slogan means for Indian agriculture. Retrieved 25 July 2020, from <https://indianexpress.com/article/explained/what-aatma-nirbhar-bharat-slogan-means-for-indian-agriculture-6492061/>
- Business Insider. (2020). Retrieved 25 July 2020, from <https://www.businessinsider.in/business/news/german-footwear-maker-to-shift-production-to-india-from-china/articleshow/75824816.cms>
- Desk, T. (2020). iPhone 11 now manufactured locally at Foxconn's Chennai plant. Retrieved 25 July 2020, from <https://indianexpress.com/article/technology/mobile-tabs/apple-iphone-11-manufacture-locally-india-6521505/>
- Bureau, F. (2020). Expanding Footprints: Microsoft India opens new engineering hub in NCR. Retrieved 25 July 2020, from <https://www.financialexpress.com/industry/technology/expanding-footprints-microsoft-india-opens-new-engineering-hub-in-ncr/1873586/>
- Times of India. (2020). Retrieved 25 July 2020, from <https://timesofindia.indiatimes.com/business/india-business/india-uk-affirm-commitment-towards-free-trade-agreement/articleshow/77164580.cms>



**Mr. Omkarnath G. Pandey**

*Omkarnath Pandey is a B.E (Mechanical Engineering) from Government Engineering College, Valsad and currently pursuing M.A (Political Science) from VNSGU, Surat. Also working as a Project Coordinator (R&D) in one of the reputed company in Surat. He has keen interest in the field of Education, Research, Political analysis, International Relations, and Management. He has been academically bright throughout. He wants to contribute in strengthening the 'New India' by mentoring the young minds and by social researches.*

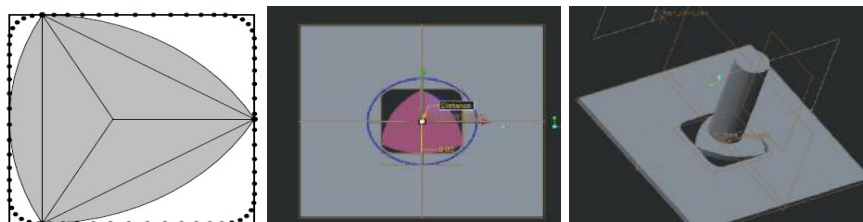
Contact Details: [omkarpandey\\_educator@yahoo.com](mailto:omkarpandey_educator@yahoo.com)

## 21. Development of Square Hole Drilling Tool and Method using Conventional Drilling Machine

In day-to-day life we have to make square hole on different kind of materials such as wall, woods, etc. Producing square hole or even any irregular shape hole is one of the major problem. There are various techniques for making square hole like electrochemical machining, Electro discharge machining, etc. But these are found of no use as they are very costlier and time consuming, also skilled person is required. In this article we suggest the technique of making square holes or even other shape by considering modification on existing drilling machine satisfying the requirement of making square hole. The system is then again modified by imparting Reuleaux triangle.

In this project article we have identified an idea of making square hole drilling system. In order to make square hole we have to convert circular motion to square motion by purely a mechanical linkage. The idea is to have Reuleaux Triangle (RT) in cam profile as it rotate it traces a path that eventually covers each part of square. This present article was a partial fulfillment for academia, where I lead the team of total four member under Prof. S.P. Maisuria (GECV).

- This idea was developed as there were frequent use of non-circular holes in various components and to make non-circular hole many traditional and nontraditional methods are exists. But again, it's time consuming and economically not viable. So we thought, when Drilling machine can make circular hole then why not the non-circular one?
- With this basic idea we worked on changing some mechanism of bit/chuck. Here the concept of Reuleaux triangle was incorporated.
- A Reuleaux Triangle (RT) is a shape that is made from arcs of circles centered at the vertices of equilateral Triangle. The representational image of RT is shown below. Cutting tool is attached at one of the edge of a RT, and when it is allowed to rotate it will make Square motion.



Mechanism of Reuleaux Triangle

- **Working:** The chuck/drill can be replaced with Reuleaux Rotor (here the upper shaft of coupling is connected with the motor shaft and the lower portion of coupling is connected with Reuleaux Triangle-RT). Type of coupling used here is Oldham Coupling. Now, when machine is connected with power supply then it gives torque to the coupling which in turn transfer the torque with Reuleaux Rotor. This way the RT will rotate but it does not make round but square movement. And high speed cutting tool mounted at one of the edge of RT will cut the material in square form. We had worked out right from designing, drafting, documentation, and final product manufacturing. When RT actually rotate it goes through all four quadrants. And the equation for each is given by:

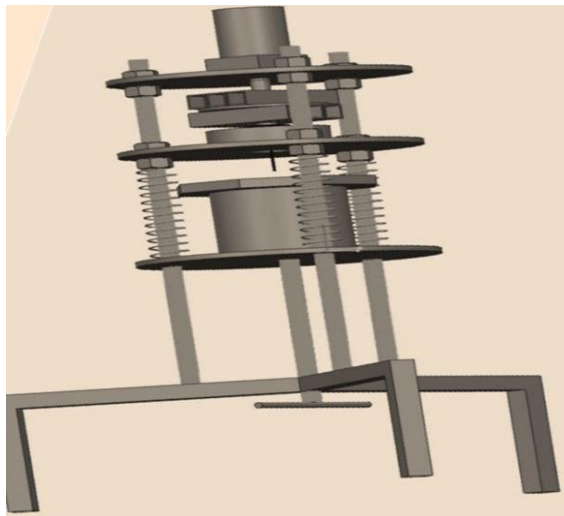
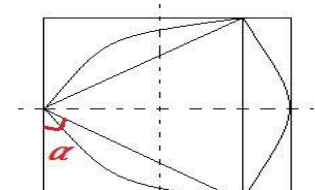
$$1^{\text{st}} \text{ Quadrant: } x = \frac{-3 + \sqrt{3} \cos(\alpha) + 3 \sin(\alpha)}{6} \quad y = \frac{-3 + 3 \cos \alpha + \sqrt{3} \sin \alpha}{6}$$

$$2^{\text{nd}} \text{ Quadrant: } x = \frac{3 - \sqrt{3} \cos(\alpha) - 3 \sin(\alpha)}{6} \quad y = \frac{-3 + 3 \cos \alpha + \sqrt{3} \sin \alpha}{6}$$

$$3^{\text{rd}} \text{ Quadrant: } x = \frac{3 - \sqrt{3} \cos(\alpha) - 3 \sin(\alpha)}{6} \quad y = \frac{3 - 3 \cos \alpha - \sqrt{3} \sin \alpha}{6}$$

$$4^{\text{th}} \text{ Quadrant: } x = \frac{-3 + \sqrt{3} \cos(\alpha) + 3 \sin(\alpha)}{6} \quad y = \frac{3 - 3 \cos \alpha - \sqrt{3} \sin \alpha}{6}$$

Here,  $\alpha$  is angle between the side of a RT and side of an adjacent side of square.



- **Future Scope and Advantage:** By restricting the motion of RT and adjusting the mounting of cutting tool as well as with different RT path/rotor, we can be able to make not only round, square but also different shape like rectangle, pentagon, hexagon or any other such shape. This concept can be used in production system and at any other industry where such need is there. It is economical, easy to operate and even can be used in existing drilling machine.
- **Achievements:** Awarded with 2<sup>nd</sup> rank at state level project competition organized by Vishwakarma Govt. Eng. College, Ahmedabad and 3<sup>rd</sup> rank at zonal level open competition by PSE, Surat.

For further detailed information and scope contact on above mail ID.

Jai Hind! #Make in India. #self-reliant India.



**Mr. Hitendra Bargal**

*Hitendra Bargal is working with Government College, Gunnor, District Panna, Madhya Pradesh, India. He has about 21 years of experience in academics and research.*

*Contact Details: bargalhitendra@gmail.com*



**Mr. Vinod Kumar Patel**

*Vinod Kumar Patel is working with the Indian Institute of Management, Indore, Madhya Pradesh, India. He has about 05 years of experience in the academic and corporate sectors.*

*Contact Details: vinodp@iimdr.ac.in*

## 22. India towards self-reliant economy

### Introduction

Self-reliant India is the theme which is given by the Government of India, this situation arises and demanded a vital change in the economic framework, this situation arises due course of pandemic and later on supported by the situation arises with trade and military conflict with China and few neighbouring countries is also not doing well in this situation. So it becomes important for India to emerge as a manufacturing hub and stop being dependent on the import from other countries. Economic improvement accords with substantial structural re-engineering, the redistribution of economic actions athwart diverse segments of the economy. Possessions transfer from the outmoded farming sector to techno-sectors. With the early stages of evolution are recognized by the growth of industrial engineering, it is successively overhauled by services like the Indian economy's leading segment. Now structural change is required to make double bounce in Indian economy in the form of market for the local players and employment generation for the skilled labour force, the present situation leads India and the world, many individuals lose their jobs, some are losing their loved ones, some entrepreneur become bankrupts, some has close their enterprise, some has no capital to start again and for some, they are starting they have to start from scratch. All these situations affect the trades within the boundaries of nation and international trade too. This results in decreasing the economic growth in years low.

Under Self-reliant India, program the government is providing support to the small industries for developing their products, providing training to their managers, provide a competitive edge over foreign companies. Giving monetary support to reviving the industries, helping them to get trained personnel.

The government also emphasizing in development of more industrial clusters, smart cities, and smart villages. The clusters would assist industrial integrity to oversee and develop a pragmatic environment for the manufacturing enlargement and endorse improved methods in manufacturing. India has all the necessary ability to become self-reliant the following things which endorse any economy, Technology, Manpower, Natural resources, Education, Health care, Agriculture.





If we talk about Technology India is the hub of software development products and services, it exports all the software-related services to the world, and share nearly half of it, now it is time to ripe that, develop the products, and engage our talent within the boundaries of the nation. In today's world, almost everything is based on technology, and India has all potential to become a tech-guru. India is a pioneer in software services and emerging power in the world map.

India has the rich flora and fauna and world's best landscape, and contain almost every minerals available in Nature, as landscape can be develop as tourist spots, and helps in attracting more tourism, apart from bio-diversity India have vast archaeological sites in the world that can further contribute in developing the tourist spots. The natural resources need the more processing units by which we can less dependent on the import of raw minerals, the policies of the government are working in the direction of developing and promoting the local sites, which helps in creating the income for local residents and sustainable development.

Agriculture is the way of life, which generates maximum employment in comparison to any sector, but contribution in income is very low, the government of India comes up with policies like transportation and marketing of farming products. By amending agricultural policies that ease the export of the agricultural product. There are various schemes run by the government of India, which focused on developing the irrigation system. The government is now moving to develop agriculture clusters for robust food processing which helps in increasing the income of farmers.

In India, the Healthcare system is categorized into two apparatuses, private and public. Private is the sole run by the private investors and in public healthcare, it is owned by the government. Now the government is more focus towards investing in the development of infrastructure, previously individuals are not so worried about their health, but healthcare education program run by the government make these individual more aware, now they are taking health policies, and ready to invest in themselves, therefore, the government needs to improve the primary health care system, especially in public segment healthcare. As the Indian medical and healthcare devices industry is arising industries, are expected to grow by 2020 with USD 280 billion. The diagnostic facilities are tremendous and advanced as the population is more sensitive towards its health. Therefore, India as the full potential to grow as a world leader in healthcare and during this situation also the whole world is looking with hope towards India. The government of India is budgeting its public health by 2025 with an increment of 2.5 percent of gross domestic product.

Labour reforms are the shield of every personnel, it safeguards the interest of both employee and employer, so the fundamental duty of the government and industries are to educate them about what they deserve, it helps in the elimination of exploitation of labor from the system, and if they are well aware of their rights and duties, they perform well. Few steps are taken by the government towards amending the labour laws like timely payment of wages and universalization of wage code to avoid malpractices with labours. Fixing the minimum wages and working hours to avoid fatigue.

Education, creates a thinker, yes if the education system of a country is healthy and everyone gets the opportunity to learn, for this Indian government makes education as a fundamental right of every child and they get free and compulsory education up to the age group of 6 years to 14 years. India has a huge network of primary education in the world which lay-down the foundation of children, afterword's the Indian education system comprise of management education from IIMs and technical education IITs and there are numerous technical and management graduate, post-graduate colleges, now upgraded education policy is more focused on research and development. For promoting revolution and entrepreneurship, the Government of India launches the "Atal Innovation Mission" (AIM) in 2018. The government of India also felicitates training and





development labs with the combination of industry experts to get the hands-on knowledge to the students. India is one of the top countries that spend on research and development. Now the time has come to make a global appearance by globalizing its top universities and colleges to attract more students around the globe.

The defence system is one of the foremost factors in achieving non-dependability on others, now India has realized this and start investing in defence research and development, investing more on nation developed ammunition's and artilleries, and focuses on exporting the defence equipment by amending some policies that allow Indian private defence industries, in the product development, which accelerate the competition among the public and private enterprises, and also encourage partnership under the public-private partnership model will enhance the quality production. Avoid the import of defence products rather than develop them within the national boundaries.

### **Conclusion**

The policies of India has changed during few years and it looks more aggressive to achieve its target, it provides all the facilities for research and development the few policies like "Start-up India", which encourage the young entrepreneur to convert their ideas in reality, "Skill India" which is continuously working in the progress of training and development of individual's which increases the of availability skill personnel for the industries. Under the "Mudra loan" the entrepreneur can take the loan without and granter which helps the one who has the idea but they don't have money to implement that, now mudra loan provides the opportunity to put their ideas in reality. For increasing the income of rural personals government is introducing the "laghu gram udyog loan" to the group of women who wish to start the small business, and government not only encourage that but also provides market to their products, under technological up-gradation government is providing the loan for purchasing the machinery for cultivation, and irrigation now setting up soil testing labs which help farmers to use the scientific methods for cultivation. The government is providing the monetary facilities for the development of cattle shades, fisheries industries, hatcheries, and poultry farms which helps in increasing the income of farmers. The government is also engaged in the development of road connectivity of every village and remote areas to connect to the nearest local market. The government aims to develop every "Gram Panchayat" as a digital panchayat which makes the communication fast and connects the village to the main streams.

Now the main agenda of the government should promote proper collaboration of all developmental pillars, by enhancing the research and development within the boundaries on the nation, promoting the local products and making special rules for the domestic industries will boost the morale of industries. Educating the resident of the nation about the local products and promote them to use.



**Ms. Parul Sharma**

*Parul currently works as an Assistant Manager in the Financial Risk domain of one of the Big 4 accounting firms. She holds a Master's degree in Economics from Madras School of Economics and a Bachelor's degree in Economics from University of Delhi. She has a passion for understanding the nuances of the global economy and considers herself a forever student who is eager to build on her academic foundations and stay in tune with the current economic developments in the world.*

Contact Details: [parulsharma7852@gmail.com](mailto:parulsharma7852@gmail.com)

### 23. Re-engineering the Education System in India

*"If we teach today as we taught yesterday, we rob our children of tomorrow."* – John Dewey

Education is an essential driver in any nation's economic growth and it is of utmost importance that a developing country like India invests in the education of its citizens, considering the role education plays in eradicating poverty and securing the economic future of its citizens. In India, millions of children, each year are deprived of the education opportunities due to the vast number of cultural, social and economic barriers that prevail in the country. Besides this, the quality of education in some states is often poor. Students who have completed elementary school may lack basic skills such as reading, writing or basic calculation. The curriculum is designed to test the memory of students instead of focussing on comprehensive learning. A vast majority of India's youth attend village elementary schools, which for some is the only route to a better life. A large chunk of students in the rural as well as the urban areas tend to drop out of schools due to varied reasons such as financial constraints, lack of transportation facilities, timing of educational institutions, poor quality of teachers, unavailability of girls toilet according to the report published by the Ministry of Human Resources Development in 2018.

The current health crisis has shaken the Indian economy with an impact on all sectors and education is no exception. However, the education sector has found an opportunity to re-invent itself amid the crisis. The Covid-19 crisis has forever changed the landscape of Indian education system. The pandemic has made it compulsory for schools to move to online platforms for teaching. It has also brought the debate of 'digital education' to the forefront.

Traditional classrooms have long been the mainstay in Indian education system. There is no denying the fact that the 'smart' classrooms cannot substitute the experience of traditional classrooms especially in a developing country like India where there is a lack of infrastructure and technology to reach the rural households. But we should instead focus on how technology can augment the learning experience of students post the Covid-19 era and how the government can act as an enabler to incorporate digital education with traditional education to improve the learning experience of children in rural as well as urban areas.

Online education has the potential to become an important part of school education and India must quickly embrace the use of basic technology in the education sector. It is not a concealed information that the number of educated unemployed in the country is on a rise and one of the key factors is the incongruity between skills taught by the educational institutions and what is required



by industry. With the inclusion of technology in the education sector, the industry players can step in and augment the industry oriented curriculum which can be useful to both the students as well as the industry. Use of technology can help students learn efficiently by providing them audio visual learning and with a customised learning experience. Use of technology can accelerate the pace of imparting knowledge as one does not need to be confined to the four-walls of a classroom and can study as per his/her will. It reduces the dependency on transportation in order to access the public education system. This can especially have a positive impact on women literacy as a large number of girls drop out of primary schools each year either due to lack of transportation facilities or unfriendly atmosphere at schools. Use of technology can thus further women's development in the country. The integration of online learning along with classroom learning can substantially improve the quality of education in India as currently it is virtually impossible for India to attract large numbers of international tutors of high standing.

However the digitalization of education also comes with its set of challenges. The issue of 'digital poverty' where students without the required infrastructure for internet access coupled with frequent power cuts struggle to partake in digital learning. Due to the onslaught of Covid-19 many households have been pushed into economic poverty and it has only worsened the inequalities in the education system within the country. Children without access to technological infrastructure are deprived of learning. Insufficient funding and budgetary concerns may also dissuade technology procurement in rural schools.

Integrated approach to Technology in Education (ITE) an initiative by Tata Trust which was launched in 2012 is an evidence of how the integration of technology with the conventional teaching methods can do wonders. Aimed to bridge the digital divide and foster digital citizenship the scheme has helped the underprivileged and backward sections improve analytical skills and resulted in improved student attendance. It is imperative for the government to make sure that technology is no longer a 'luxury' which is not in the reach of the poorer section of the country. State governments need to step up and invest extensively in hardware technology for classrooms such as tablets, phones etc. A study done by cable.co.uk that analysed data from 5554 mobile data plans in 228 countries revealed that India holds the number one rank for the cheapest mobile data plans in the world. The government needs to ensure that the internet and technological revolution is not restricted to only a few sections of the society but should penetrate amongst all. The government must grant funds for development of free e-learning apps and provide internet subsidy to the students. NGOs should be encouraged to seek donations in the form of second hand tablets, phones to facilitate learning of students without any hurdles. Ed-tech start-ups should also be promoted to curate the digital content and should come up with ways to incentivize them to work with the impoverished section of the society.

If digital learning coupled with classroom learning can bring better outcomes for today's students, it could help fast-track the economic growth for generations to come.



**Author:**  
**Mr. Siddhartha Dua**

*Mr. Siddhartha Dua is a graduate in Computer Science and Engineering and MBA (Oil & Gas) from UPES Dehradun. He has done Executive program in management from IIM Lucknow. He has over 15 years of experience in Oil & Gas sector and has worked in various Capacities in HPCL a Maharatna and a fortune 500 organization known for caring and delighting customers thru superior value and high end products. He is an avid reader and blogger. Is a close observer of Political and economic developments of India and the World. He also operates the blog*

*<https://imsva91-ctp.trendmicro.com:443/wis/clicktime/v1/query?url=https%3a%2f%2fjobsolterreality.com&umid=F552C8EC-AC82-D805-9310-ED48D7F27BC6&auth=d01850f74ebf4eaa064664e315261699f0c75-087c59840673d1cbfca833077c96a713f41efd5e>*

*writes on various corporate and macro-economic issues. His blog has over 500 followers and is rated very highly by the readers in corporate sector of India. A trainer and subject matter expert in Digital Marketing. Has designed the course for junior Managers in HPCL. He won Bronze Medal at AIMA Corporate Olympiad on the topic "Industry – Government Partnership to make India a USD 5 trillion Economy in 5 years. Regularly takes part in various competitions organized for corporates.*

*Contact Details: [siddharthadua@hpcl.in](mailto:siddharthadua@hpcl.in)*



**Co- Author**  
**Dr. S Venkataramanaiah**

*Dr. S Venkataramanaiah is an Associate Professor at IIM Lucknow. He has around 28 years of teaching and research experience. He has published around twenty-five research papers in peer reviewed international journals and more than 50 research papers in international conferences. He authored four book chapters and a customized book on Production and Operations Management. His main research includes Supply Chain Management, Healthcare Management/ Healthcare Supply Chains, Operations in Service/Religious Organisations, Competitiveness of SMEs and Cluster Development, Agriculture Supply Chains etc. He has conducted more than 50 Executive Development Programmes and carried out consulting projects. He was a Best teacher award winner as well as Fulbright Scholar. Venkat was instrumental in the design and launch of five year integrated MBA Programme at IIM Indore. He is a certified professional in Lean Healthcare. Trained in TQM in Higher Education. He is a recipient of Jagatik Ayurvigyan Samman Award for his seminal work in the area of healthcare management. He is also a marathon runner.*

## 24. Leveraging COVID-19 crisis to boost Indian Economy

These are unprecedented times we are in the midst of a pandemic; world has no experience in dealing with a pandemic so ferocious a pandemic so devastating. It is a nightmare which the world is going thru and there seems to be no panacea. Winston Churchill famously said during World war II "If you're going through hell, keep going." That is exactly what we have to do now. This pandemic has affected everything our lifestyle, our thinking our psychology and most **importantly our economy**.



Outlook for world economy looks bleak. World GDP is expected to contract by 3% as many countries including USA, Europe, Spain, Germany and France are expected to contract by 6-7% as per IMF report. Indian economy which was otherwise growing at a rate of 5-6% is also expected to contract by 5%. Other agencies have painted even grimmer picture for Indian economy which in any case was not in the pink of health.

Our Prime Minister on 12<sup>th</sup> of May 2020 announced a stimulus packaged of Rs. 20 Lakh crores which is roughly equivalent to 10% of our GDP to move the wheels of the economy and has also given a massive thrust to **“Make in India Campaign”**

Even though India is now a much bigger economy of USD 2.93 Trillion and has sufficient Forex reserves but still naysayers are not hesitant to vilify our country for they do not believe in India's growth story. Though there is some merit in their arguments as tax revenues including GST is going to be much lesser than previous years but let us analyze the entire picture from a holistic perspective.

Let us look at the overall crisis. Indian economy is in much better shape today than what it was in 1991 when a balance of payment crisis loomed large and there was a chance that India might default on the payment of its external debts.

#### **Importance of Foreign Exchange Reserves:**

Foreign Exchange Reserves refer to the international reserves held by a country's central bank. RBI holds India's foreign exchange reserves (“FX reserves”) in the form of foreign currency assets, gold, Special Drawing Rights (“SDRs”) and Reserve Tranche position in the IMF. India's foreign reserves have been increasing since the beginning of this decade, reaching an all-time high at US\$534.568 Billion on 31 July 2020, the highest ever.

In 2018-19 our fuel import bill was more than USD 160 Billion dollars, considering the way things are in the current financial year fuel oil bill is going to be less than USD 60 Billion, we imported 259 MMT of Petroleum and petroleum products at average when our average Indian crude basket was USD 70 a Barrel. This price is likely to be reduced to USD 25-30 a barrel and with the reduced consumption as well the import bill is likely to be around USD 60 Billion dollars resulting in a net saving of \$ 100 Billion dollars because of crude oil imports. Import of other items is also likely to come down because of lesser demand.

Our import bill is likely to dwindle to 300 Billion dollars from over \$ 500 Billion in 2018-19. However, there is a flip side as well our exports are also likely to come down by \$ 100 Billion as there is very little production in the factories and entire world economy is also undergoing a meltdown.

However not all is lost for us on export front as some of our agriculture and fishery produce is unlikely to be hit. Hence net trade deficit is likely to come down from USD 180 Billion to about USD 100 Billion which is a positive sign for a country like India with a huge trade deficit. Also these numbers do not look good if we are looking at our GDP.

As per RBI data inbound foreign Remittances Foreign remittance contributed over USD 70 B in 2018 - 19 because of which we could manage our CAD to USD 57 B for the year 2018-19 and considering the way things stand even if we take a loss of around USD 30 B towards foreign remittances and inbound tourism we will still end up with a CAD which is around USD 10 B dollars which will be 0.3% of our GDP.





Major focus of Government has been rightly towards MSME sector and it can be gauged from the slew of measures announced by Finance minister including abolishing of Global tender up to 200crore and providing three lakh cores to MSMEs a collateral free Automatic loans.

Government can use USD 50 Billion from Forex reserves and use this amount to transfer Rs. 12000/- into each of 300 Million Jan Dhan accounts. It will serve dual purpose of spurring the demand and increasing production which is much needed and in turn generating employment.

It is the best time to tweak the labor laws to make them more industry friendly and do away with those archaic labor laws which disincentives the industry and threaten the businesses. Academia needs to work in coordination with the industry to design industry friendly courses so that our vast human resource can actual help in raising productivity.

Encouraging banks and NBFC to lend more, even if some of the loans become NPA Government should encourage banks, NBFCs to lend and put more money in the hands of industry. Government should reward banks and NBFCs which dole out loans especially loans to MSMEs. No vigilance and CBI inquiries against loans disbursed in period. This is a God sent opportunity to overcome red tape and unnecessary bureaucratic interventions.

Our Pharma sector can be the bellwether of our exports, we can be pharma factory for the world by supplying medicines and vaccines. It will also give us a chance to showcase our Ayurveda and Naturopathy to the world enhancing our image worldwide.

Every crisis is an opportunity and COVID-19 is also an opportunity for India to stake its rightful claim in the world Pecking order. It is the time for India to step up and become the World “Arogya Guru”, Make in India in style.

Data Source: IMF

<https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020>

Ministry of Commerce : <https://commerce.gov.in/>

RBI: <https://www.rbi.org.in/>

PPAC : Petroleum Planning and Analysis Cell : <https://www.ppac.gov.in/>



**Mr. Kalya Lakshmi Sainath**

*Kalya Lakshmi Sainath is from YSR district (Kadapa) Andhra Pradesh. He worked with Safexpress, Gati Logistics, Yusen Logistics India, Spoton Logistics also completed his Master's in supply chain management & International Business at Lloyd business school, Greater Noida. His vision is to become a top industry expertise in the field of supply chain management, His hobbies are reading journals related to SCM, He is very passionate to participate in seminars organized by various institutions so far, he participated in 50+ international and national conferences, national and international workshops. His professional strength is interaction with industry all the time. He presented 10 research papers and authored 9 papers on various emerging sectors/domains.*

*Contact Details: [lakshmisainath.webs.com](http://lakshmisainath.webs.com)*

## 25. Are we ready to fight with Power Rangers in logistics Industry?

Game changers are the elements which can be disruptive or innovative where we have the formula one has to win and another has to lose in any sectors. To understand the above line in detail most of the industries are facing disruptions due to the change in the technological advancements, PESTL factors, risks which involved in the process. With reference to logistics industry, disruptions are knocking and the situations are alarming to the companies either for logistics giants or a new born startup's. In the era of analytics solar system, planets like block chain, machine learning, design thinking, RFID (Radio Frequency Identification), deep learning, VUCA world (Volatile, Uncertain, Complex, Ambiguous), 3D Printing, Artificial Intelligence etc are driving factors for 2030 in logistics.

### **Block chain:**

Though it is related to transactions but trucking sector is also enlarging its usage. As per the BITA (Block chain in trucking alliance) predicts 8 transformational steps will improve in the industry are For the better freight tracking, effective vehicle tracking or vehicle performance history, Easy carrier onboarding, Elimination of the difficulties, removing of middlemen for the clearances. There is a high risk in blockchain like a two headed coin to the process that is Electronic Data Transfer over a 30 years of industry EDI is having potential risk by using this technology. Recently Fedex shared a report "More than half of the transportation and logistics professionals still use a pen and paper to manage their supply chain" surprises us how it will be impacted if the industry is not up to date in dragons like blockchain.

### **Machine Learning:**

In today's world, Machines are learning is the buzzword screaming in industry because it helps to reshape the logistics and supply chain also the predictive analytics is giving alarm in the global industry where we need to awake and take decisions in the area of operational efficiency, conflict avoidance, monitor calendars of trucks. National Language processing (NLP) system is a key in machine learning with "Unsupervised Learning" to help behavioral aspects like in documentation process, documents verification and accuracy. Let's talk on Global tranz logistics who is helping one of the biggest manufacturers with multiple locations tracking, financial forecasts and their order processing. We need to understand that we cannot get efficiency unless we can predict every event and foresee every contingency.



### **Design Thinking:**

Design thinking is an important aspect in logistics decisions in the identification of problem and decision making to visualize the alternatives which is transformation to the industry in which we have to be learned about negative effects that are entirely preventable in the process. For example, shoes company like Adidas has layered this technology to speed up their factories where they brought time from months to days. Whether this is applicable or not we must understand proof of concept to get scalability by re framing the role of prototype which is a step to scalability in design thinking.

### **RFID (Radio Frequency Identification):**

A decade ago, People in industry were are laughing how radio waves will move the pallets, boxes, trucks but in today's world there is nothing without RFID. In logistics industry there is cutting edge technologies to improve customer service and expenditures. The productivity of transporters will improve with this increased use of technology. This technology will help to automate workflow and processes while capturing data, Helps in yard management. It supports to reduce costs related to labor and easy to identify bottlenecks in the supply chain.

### **Are these power rangers or dangers to industry?**

Yes, these are power rangers to the industry just because of live action entertainers to the logistics giants and startups in global context. If we coincide the show and the disruptions both are similar because the qualities which power rangers have like enhanced strength, durability, agility and combat prowess and abilities are super speed, element manipulation, extra sensory perception or invisibility. In addition each individual has a unique weapon where they use for individual fighting machine. When we correlate the above activities with the innovators in industry like AI, RFID these also having the same abilities and powers to make ZORD in the industry but with unique characters of their own. In this way we must identify the power rangers in industry whereas to develop the productivity with their super powers.

### **A Way forward for future scope:**

In 2050, the game of analytics will be in supreme whereas the drivers like infrastructure, facilities, transportation are changing at Par. Professionals in industry must enhance and update their memories to adopt and evolve to shine in this analytical planet system to make rules of origin really do rule.

### **References:**

1. <https://www.businessinsider.in/more-than-half-of-transportation-and-logistics-professionals-still-use-a-pen-and-paper-to-manage-their-supply-chain-heres-how-blockchain-could-change-that/articleshow/70474594.cms>
2. "How blockchain is revolutionizing the world of logistics and transportation. (<https://www.winniesota.com/blockchain>).
3. <https://www.globaltranz.com/blog/how-machine-learning-is-transforming-logistics/>
4. <https://www.mphasis.com/home/services/digital/innovation/make-design-thinking/design-thinking-logistic-company.html>
5. <https://sctimes.io/news/article.aspx?tid=24&aid=5599>
6. [https://www.kn-portal.com/about\\_us/careers/grow\\_with\\_kn/global\\_talent\\_programme/design\\_thinking/](https://www.kn-portal.com/about_us/careers/grow_with_kn/global_talent_programme/design_thinking/)
7. <https://www.youtube.com/watch?v=M66ZU2PClCM>
8. Zhang, Xiaoqiang & Dong, Qin & Hu, Fangjie. (2012). Applications of RFID in Logistics and Supply Chains: An Overview. 1399-1404. 10.1061/9780784412602.0213.
9. J.F. McCarthy, D.H. Nguyen, A.M. Rashid, S. Soroczak, 'Proactive Displays & The Experience UbiComp Project', Adjunct Proceedings of the Fifth International Conference on Ubiquitous Computing (UbiComp 2003), 12-15 October 2003, Seattle, pp. 78-81.



**Mr. Jorawer Singh**

*Strategic Consultant - Certified in "Future of Work- Preparing for Disruptions". Apt in "social side of strategy" arising from Corporate Politics, Individual Incentives, and Human Biases. Helps in way forward - by budgeting for uncertainty, -helping "exploration of the world" beyond available in-house experience, -proposing bold strategies embracing big moves that are high likely to deliver a strong performance jolt. Highly effective in Proactively handling HR Work Air & IR situations, & minimising compliance liabilities, through design of manpower deployment mix of "on-roll", apprentice, fixed term, assignment based, service level, third party Payrolling. A practical compass for organizations in India to enable them to proactively chart the changes happening through new Labour Law Codes, & to be ahead of the game. Work for corporate more like an outsourced #CHRO /part time #DirectorHR for manufacturing/service sector, at cost effective Pay-for-Use basis.*

Contact Details: <http://linkedin.com/in/jorawer-singh-85b9a58>

## 26. Formal sector employment: a need to expand it.

The table below gives us the insights into importance & the role being played by the formal sector undertakings offering stable jobs.

Year 2005 – 2006	Formal Undertakings	Informal Undertakings
Share of Firms	0.7%	99.3%
Share of employment	19.5%	80.5%
Median employment	20	9
Median gross value added per worker. INR	82,000	12500

The situations continues to be same as it was in 2005 with minor changes. The bigger question is what is preventing the creation of formal stable jobs and also what is leading to creation of large informal employment.

India has set itself a target of 5 trillion economy by 2022, however, the turn of events upon arrival of COVID19 virus, has given the Governments a much needed pause to revisit its labour laws, so as not only to give a boost to economy, once the lockdown starts melting, but also to provide a favourable environment to some large organisations, who are willing to shift base to India, but are wary of archaic legal framework.

The formal sector jobs not only helps workers add 7 times more gross value than their informal sector counterparts, but also helps generate larger and stable employment.

Four Indian states have taken the lead, and have tweaked certain labour enactments, in the month of May 2020. The results will start showing up by the end of this Financial Year.

Labour Laws: What all needs to be tweaked.



Politicians are trying to create jobs by financing programs for the development of small and medium enterprises. However, these programs are rarely cost-effective. They are based on the belief that small and medium enterprises create stable jobs, and yet the evidence shows that large firms account for the largest proportion of stable jobs in many economies.

A better solution is to ease the barriers for start-ups to encourage competitive markets. Start-ups require a business-friendly environment that does not favour large private firms already in a market for some time (incumbents) and state-owned enterprises or firms run by government officials, their associates, relatives or with blessings. A small number of start-ups will become the next superstar firms.

As per this report the participating labour in India is about 660 million, and as per the EPFO website, there are only 60 million gross subscribers, who have at least contributed once in the year, and therefore form part of formal employment. This is meagre 9%.

In addition to creating new jobs, Post Covid19 lockdown, the uneven migration of labour from one state to another, has made some states labour surplus and some labour deficient, the immediate challenges appear to be to adjust the available workers in existing setups, and also to create a balancing act for labour surplus and labour deficient states.

In brief the objectives before us is to tweak labour laws in a manner so as to:

1. create more jobs where in workers from Non Standard Employment (NSE) can move into formal stable jobs.
2. reduce social protection load on entry of fresh talent and creating a talent pool to be ready for expected industries coming our way.
3. cover up the time lost by working extra in coming times, without unnecessary restrictions.
4. minimising work disruptions of any by unions.
5. cut away bureaucratic red tape, where industry wish to change plant layouts, modify products or processes, wish to use extra available room or building, for additional production processes.
6. to reduce the paper work, returns, compliance which take away precious time till a more efficient online, digital data capturing method is introduced.
7. increase social protection for workers in non-standard employments.
8. activate of employment exchanges and Central Board of Worker Education.
9. create equal opportunity for all segments of society.





**Dr Aarti Chopra**

*Dr Aarti Chopra is an academician, corporate trainer and an author. She is currently working as a Principal at Bharatiya Vidya Bhavan's College of Communication and Management, Jaipur. She has various research papers credited to her name in various national and international journals. She has presented her researches at numerous conferences and seminars. She is an author of 2 books on Business Laws.*

*Contact Details: chopraaarti.1981@gmail.com*

## 27. Impact of the Pandemic on Education Sector

### Introduction

The year 2020 may be labeled as the destruction on a catastrophic scale, a bizarre year with extreme rarity and severe impact. The pandemic has shown domino effect on the lives, lifestyle and livelihood of the people across the globe. The virus has impacted almost all the sectors economically, not sparing the academia too. Rising unemployment amidst the prevailing situation could not allow education sector to remain unharmed as the sector is disproportionately injured the educational hubs. The researches have shown that the employment in the education sector fell by 15 percent between February to May 2020. As per the report by the US Labor Department, April was a nightmare for the teachers when more than 1 million teachers had lost their jobs. In India, some incidents of teachers possessing degrees like B.Ed., M.Phil. and even PhD, selling vegetables for earning their livelihood.

However, the crisis began even before Covid-19 as the demands of the market were changing with the advent of artificial intelligence in all the sectors. Specifically, developing nations were having hard times to keep-up the pace with dynamic environment of contemporary epoch. The education industry at all levels was among the first ones to be affected with the news of outbreak and spread of the virus. The situation had different economic impacts on different stakeholders of the industry; positive for some but adverse for the most.

### Objective of the Study

The study aims at understanding the economic impact on the various stakeholders of education industry. It also intends to identify the widening gaps in research and academia and thus focuses on the significance of 'preparedness' so that the slide to the recuperation becomes easier.

### Impact on Various Stakeholders

#### Educational Institutions

Schools and colleges were among the first set to be closed with the declaration of the virus. These institutions had faced and are being still facing a huge economic loss. They faced dual pressure; to continue providing the education online and not to demand the fee. Several students and parents came together and formed formal or informal groups for asking the refunds of the development and infrastructural fee, of which they said they are receiving the benefits. In some cases, compromiser was just to pay the tuition fee which on the global average was just 40 percent of the total fee. Whereas, the educational institutions did not get any relaxation in the payment of the installments of their transportation apparatus nor in the annual maintenance of their laboratories, security and IT



systems and playgrounds. At the same time, they were expected to quickly adapt to transform their education system into the gigantic online world with the variety of applications useful for the students. Even the giants in the industry like Harvard is estimated drop revenue of \$715 million.

### **Teaching Staff**

Teachers have faced a significant share of revenue loss in the form of pay cuts as well as delayed payments. The teachers who were the candidates under gig economy had to face even worse. Since they did not have the permanent job, the institutions did not have an obligation to extend their duties anymore. This resulted in reduced employment as well as more work pressure on the permanent teachers. As per the interviews with more than 500 school teachers by Livemint, teachers felt overworked, stressed and unhappy. The pressure of learning the most-modern technology, finding best appropriate platforms to teach, getting used to of it, preparing teaching material that comprehends the selected platforms, sharing their personal space publicly, not meeting their students in person and of course pay cuts were the major reasons they shared for their discontentment. The support staff also faced a tough time. In the US alone, 4,500 school bus drivers had to lose their jobs.

### **Students**

The pandemic converted the bedrooms of the students into their classrooms. The feel of the 'campus life' has lost. As per the statistical calculation by The World Bank, the loss in terms of learning is around 0.6 years of schooling. In the simpler words, the students are able to yield only 40 percent of what they learn in their school even after the immense efforts by the teachers. Moreover, the most important point here is the economic recession which is resulted by this pandemic has led to ruthless unemployment. This is the cause of many students dropping out. Especially, after high school, dream of having education from the elite institutions has collapsed as acquiring such degrees is quite expensive. The biggest misery is for the final year passing out students who are unable to get employed. Students from the developing countries where a significant population is under-privileged or studying under RTE could hardly bear the expenses of the gadgets such as laptop/smartphone and internet connections. In rural areas, network issues and combat power failure is common. The health effects on the eyes and brain due to overuse of the screens remains noteworthy matter too.

### **Educational and Conferencing Applications**

Among the few 'real winners' in the pandemic situation are the online educational websites, applications and the virtual meeting applications. As per Cisco WebEx, the use of conferencing applications such as Zoom Meetings, Go to Meetings, etc. has increased to 4 times in Asia, 3 times in Europe and 2.5 times in USA. Online education and training applications such as Byju's, edX, Coursera, etc has also been able to made their mark to cater not only the school and college students but also to adult segment through their varied courses.

To conclude, the pandemic has altered everyone's life in one way or another. The facilitators as well as the receivers of education are highly impacted with this 'New Normal' in whose adaptation, everything is not actually normal. Though, it has made the way to modify some patterns as obsolete examination system which seems to have some value but the overall scenario seems to demand a lot in terms of money, time and energy.



**Dr. Geeta Durga**

*Dr. Geeta Durga is a true amalgamation of passionate teacher, administrator, dedicated mentor, and a researcher. She has total 20 years of experience of teaching Chemistry. Presently she is working as an Associate Professor in Department of Chemistry and Biochemistry, School of Basic Sciences and Research, Sharda University. Additionally, she holds the position of Chairperson, Career Counseling and Development Centre of Sharda University. As an administrator, she has proven record of successful leader as Head of Department for long five years. She has 15 publications as Research papers and book chapters with reputed international publishers in her credit. As a Researcher, she intends to develop the area of organic optoelectronic materials and have started the same. As an extension of her Ph.D. work, she has also worked in fibre reinforced epoxy composites. She also has experience in developing grafted natural polymers that we used in water remediation. She has guided/ guiding 7 students for M.Sc. Dissertations, 3 B.Sc. Students for project and 2 Ph.D. Scholars.*

Contact Details: [geeta.durga@sharda.ac.in](mailto:geeta.durga@sharda.ac.in)  
<https://sites.google.com/view/profiledr-geeta-durga/home>



**Dr. Parul Saxena**

*As an accomplished professional and academician Dr. Saxena brings in 18 years of total experience out of which 8 years working for IT and IT Services companies based out of US/India, and over 10 years into academics. Presently working as Head, Department of HR & OB, School of Business Studies, and also holding an additional charge of Vice Chairperson Career Counseling & Development Centre, Sharda University Greater Noida. As a prolific writer, Dr Saxena has presented several research papers at National and International conferences with special focus on issues such as Work- Life Balance, Gender Diversity, and Employee engagement and various other HR issues. She has also been part of the organizing committee of the national and international conferences and member of academic council at present and previous assignments. As a trainer, she has conducted and organised Faculty Development Program/ MDPs on soft skills, emotional intelligence and case study methods etc. for national and international clientele*

Contact Details: [parul.saxena@sharda.ac.in](mailto:parul.saxena@sharda.ac.in)  
<https://www.linkedin.com/in/dr-parul-saxena-5470781/>

## 28. True Leaders Create More Leaders Not Followers!

“A leader is a leader because there is a team”

### Overview of Leadership

Leadership as a concept has been talked about a lot, yet its many facets remain unexplored till date. With the changing times, leadership requires new ways of thinking. A leader is defined as the one who is able to influence the actions of others. A leader can consider himself as a leader since he is the member of a team. Had there not been the team he would not have been called as a leader. So he should lead the team by being a part of the team and not the boss. He or she should not take the credits of another's endeavors. A true leader is the one who eats the last after distributing the sweets of success among everyone. Leader reaches at the top, not because of himself, but a supporting team makes it possible. So, hand-holding by the true leader is a must.

### Recent Trends In leadership

The world is increasingly unstable, technology has created increased connectedness, organizational structures are diffuse, teams are virtual, and change continues at a greater rate than ever before. Thus, it calls for understanding the metamorphosed concept of “leadership” in context to the recent needs and demands. In this segment, the authors present some of the recent developments that have taken place in the area of Leadership:

1. *Distributive Leadership*
2. *Transformational leadership*
3. *Servant Leadership*
4. *Virtual Leadership*

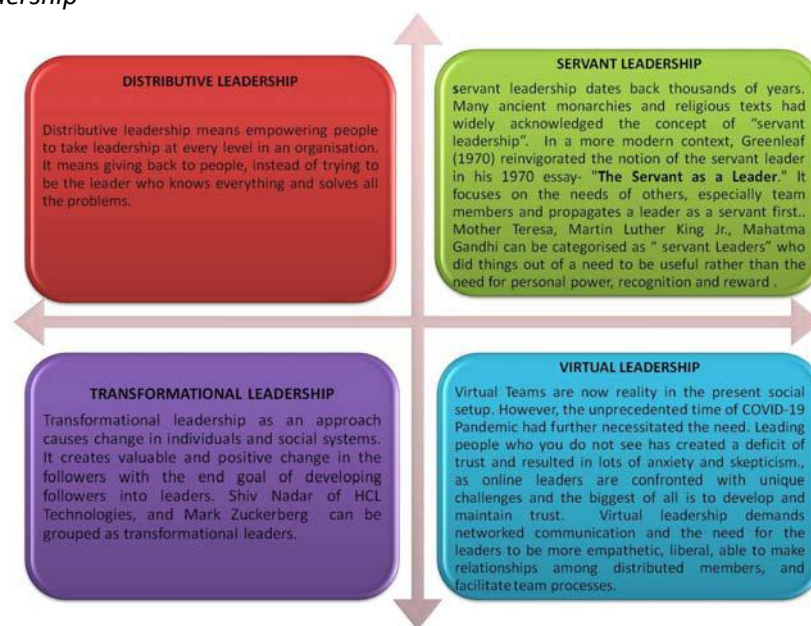


Figure: Recent Trends of Leadership

### Behaviours of true leadership

In today's dynamic environment, the concept of Leadership has gone through myriad changes, it is more than being in-charge or managing people. For the success of any team or organization, it is not sufficient to have just good leaders but it is important to have an organizational culture that cultivates great leaders. A great leader practices the following traits:

- 1) *Integrate into a team* i.e shifting from “I” to “we”
- 2) *Believes in Trust building and Shifts from control to influence* by including everyone's perspectives to bring transparency in the decision making process .
- 3) *Empathy and Care* i.e. has the ability to have and display care for others' needs and achievements.
- 4) *Leverages Strategic Networking* in a way that builds relationships and strengthens alliances to reap benefits.
- 5) *Shatters the glass ceilings:* Accepted norms, unwritten rules and implied bias prevent a honcho from reaching high level, these invisible barriers act as a glass ceiling. A true leader always works on minimizing or even eliminating these concepts to attain supremacy in the true sense.
- 6) *Bestrewn high Emotional Intelligence Quotient (EIQ)* that helps them to coach teams, manage stress, deliver feedback, and collaborate with others.





- 7) Believes in “Promoting the team as a reason for success leads to success indeed”.

#### **Nurturing Leadership:**

*The leaders around compel us to think whether the leaders are born or created? Leadership is natural or nurtured.* Leadership may be considered as a skill that is observed to be shared by other leaders also. The people with these natural traits are easily recognized. Spotting workers with leadership potential and helping them to build up their aptitudes and practices will receive huge benefits for both the individual and the organization. The leadership skills may be nurtured by mentoring programmes, increasing responsibility, providing training in areas of development. The initiatives and achievements of the budding leaders must be recognized and receive appreciation. In the modern context of leadership, great leaders such as Ratan Tata, have built the definition of true leadership by being philanthropic and empathic.

#### **Changing landscape of Leadership : An Indian Perspective**

Great leadership existed in India since Lords and Demons were viewed as occupying the earth. These leaders were known as kings. The leaders i.e. kings in India were chosen to be based upon human and military necessity, and that the king's first obligation was to lead his subjects in war. Many such stories are prevailing and scripted in our Vedic texts written thereafter. Our mythological scripts like Ramayana and Mahabharata signify the role of true leadership where Lord Ram and Yudhishtir respectively are considered to be the epitomes of excellence. So the very source of leadership initiative in India was not exclusively to shield individuals from outside hostility yet additionally to save the social request. Some of the kings who have engraved their names as great leaders in ancient history include Ajatasatru, Chandragupta Maurya, Ashoka, Samudragupta, Pulakesi II, Raja Raja Chola I, Krishnadevaraya etc. However, their leadership was aimed to conquer the other states and increase their own territories. Medieval India being in thrall had faced the worst face of dictatorship of Mughal emperors. The Pre-Independence era in India has witnessed the complete shatteredness of its cultures and foundations, as the British rulers' never led India, in a true spirit. Post independence, with the dawn of Modern India, the definition of leadership has also seen refinements. The Independent India was the largest democracy and led by the great leaders of the century i.e. Mahatma Gandhi, Jawahar Lal Nehru, Lal Bahadur Shastri etc. Mahatma Gandhi, as a leader, was a pioneer of his time as well as is viewed hitherto as the most significant and an ideal head for Indian culture. In the present scenario of technologically advanced society, the new India led by the visionary leader PM Narendra Modi is witnessing a new dawn and is finding a new place at the international Forum.

#### **Conclusion**

Leaders act as a lighthouse whether it be a country, organisation or society; everything falls and rises on Leadership. Leaders tread on the unexplored path and set a trail for others to follow. Leaders with sheer will-power and efforts have changed the course of history, have built giant organizations, fabricated a new social norm and have redefined the geographical boundaries. But at the same time, the changing dynamics calls for a tectonic shift in this phenomenon, which will lead to a new world order. Strong and authentic leadership is the need of the hour. In these turbulent times, the leaders who can put others' interest above the self are needed more than ever. Leaders provide a vision and direction, and as it is said, “Where there is no vision, the people perish!”





**Mr Susheel Mehrotra**

*Mr Susheel is an 1986 batch Chartered Accountant and Alumni of Shri Ram College of Commerce, University of Delhi. He possess over 34 years of accomplished experience in senior leadership positions with large renowned corporate in India and overseas. Presently, Chief Financial Officer of Indo Rama Synthetics (I) Ltd. (IRSL). IRSL is an integrated producer of polyester staple fiber, draw textured yarn, partially oriented yarn etc. Recipient of India Risk Management Award 2015 hosted by CNBC TV18 and ICICI Lombard General Insurance Company Limited. Industry representative on "Task Force for Promotion of Bio Technology and Bio Business in the State" of Himachal Pradesh; nominated by Hon'ble Governor of the State (2003-05). Erstwhile, member "Career Advisory Board" and "Evaluation Team", of Asia Pacific Institute of Management, New Delhi", a premier Institute recognized by UGC for post graduate education in banking and financial services (2008-2012).*

*Contact Details: susheelmehrotra@gmail.com*

## 29. Strengthening Indo-Japan Economic Ties

On the economic front, there is widespread acknowledgment of high complementarity between Japan and India in multiple sectors. Both countries stand to gain much from cooperation in automobile, pharma, chemical, electronics, textile and food processing. In each of these cases, India offers a sound manufacturing base and market for Japanese products

1. In view of this **India may seek access to Japanese technology in India's young demographic and vibrant agriculture sector by inviting Japanese investment in farm/ food processing sector. Food processing industry in India offers tremendous opportunity. This will also help Indian farmers get access to best in class Japanese technology as also get the best price for the agri-produce. This may further be enhanced by inviting technology to process agri-waste/ bio-mass/ crop residue. This will be in line with vision of Hon'ble Prime Minister to double the farm income by 2022.**
2. In the wake of Covid-19 led disruption to Japanese supply chain and country looking forward to diversify its production base, reduce its overdependence on Chinese manufacturing complex **India may encourage Japanese manufacturers to adopt India as the new manufacturing hub. This will help invite Japanese investment in electronics, automobile, pharma, infrastructure and other sectors.** India is also a huge and growing market for Japanese products, from automobile to consumer electronics which promises very long-term profitability. **This will be in line with "Make in India vision of Hon'ble Prime Minister.** In return India may unfold its ongoing plan to addresses the gaps in regulatory environment, infrastructure, electricity and unclogging of ports. **This will add to ease of doing business in India.**
3. Japan has been the largest donor to India and has concluded immensely successful Delhi Metro. It is the lead foreign participant in the National Industrial Corridor Development Corporation (NICDC) with JBIC holding 26% in the venture which aims to create five industrial corridors with industrial cities. Japan is also investing in high-speed railways and industrial townships and housing clusters of Japanese companies. **This may be taken to the**



next level by encouraging further Japanese investment in Indian infrastructure including metro, railways, road projects, freight corridors and airports.

4. From an attractiveness perspective, **India provides a huge and cost effective pool of manpower which is highly trainable.** This labour pool can provide price advantage to companies with globalized value chains, including electronics and automobiles.
5. India also has a well-developed engineering sector and **offers tremendous information technology/software sector for use by Japanese manufacturers in their electronic devices and production control systems** which could easily support manufacturing technology and reduce the allied-industry development lead time.

Investment in India by developed countries like Japan will not only improve GDP but will also go a long way in generating employment and **skill development in young Indian** and bring about orbital shift in country's social fabric. **This will be a step towards realising the dream of Atma Nirbhar Bharat.**



**Dr. Ashok Kumar Jain**

*Mr. Ashok Kumar Jain has did his B Tech (IIT/K) in 1969 and M Tech (IIT/K) in 1971. He completed his PHD (MNNIT/ALD) in 2014. Mr. Jain has been Self-employed since 1972. He Manufactured and erected many prefab Ferrocement buildings and allied structures all over the country. His various Technical Papers have been Published and presented in India and abroad. He isalso a Consultant to a few Industries engaged in ferrocement manufacturing.*

Contact Details: [akjferrocement@hotmail.com](mailto:akjferrocement@hotmail.com)

### 30. Housing the country

Major efforts are being made constantly by many agencies towards the goal, but even now we need millions of houses for all class of people.

The bottlenecks for a mega scale effort in housing and allied sector are:

1. Availability of -
  - a. Land
  - b. Materials
  - c. Skilled workers
2. Safety against
  - a. Seismic activity
  - b. Cyclones in coastal areas
  - c. Fire
  - d. Floods
  - e. High carbon footprint
3. Overall cost and affordability for various class of people

Copying has been our major trait and we are good at it. But we somehow failed to do so in the housing sector.

To find the answer to all the above problems in one go, let us realise one fundamental

**“WEIGHT IS A PENALTY”**

If we keep this in mind while designing a house, we get safety as mentioned in point 2 above automatically. Overall cost also goes down substantially when material used is much smaller in quantity. What we need really is something like corrugated paper or an aircraft structure, because both have very high strength to weight ratio. Both have two plane surfaces stiffened by perpendicular closely spaced ribs. Following this principle, Japan and other developed countries mostly use timber for low rise housing construction.

But timber is banned for use in housing in our country and we must find a substitute.

We have developed Ferrocement sheets in 8-10 mm thickness, which is equivalent to about 25-30 mm thickness timber in weight. As given in National building code of India 2016, part 6, section 3A-timber construction, ferrocement web beams and stressed skin panel components can be easily

precast and assembled in full scale housing. Ferrocement being a man-made material, its physical properties (E) can be easily planned with various type of meshes and mortar strengths.

Ferrocement is a material wherein steel wire meshes are impregnated with cement-sand mortar. If done with care, it can last at least 50 years without any maintenance except cosmetics.

It has been shown experimentally that even 60-minute exposure to temperatures as high as 1100 degree Celsius reduces the strength of ferrocement by only 5%.

The houses made of ferrocement are box like rigid and watertight construction and so light that in case of a flood would float on water with all paraphernalia and living beings. There is no danger of toppling over or going under the water.

As seismic forces acting on the structure are proportional to the mass of the structure, these houses are very safe being very light and ductile and thereby absorbing much of the seismic energy.

Only three materials are used in ferrocement, Sand, the major component, Cement, and steel wire meshes. The quantity of cement and steel are very small. Sand has no carbon footprint. Thus, in total the carbon footprint of ferrocement is about 40% of that of concrete and about 25% of that of masonry structures.

The technology is also very simple and can be learnt by a local artisan in a weeks' time.

And the best part of light weight, freely mouldable in any shape and size is that the houses can be made above the ground on stilts, leaving the entire ground for all other activities such as mobility, vehicular traffic, cultivation etc.

A few sketches below explain the idea.

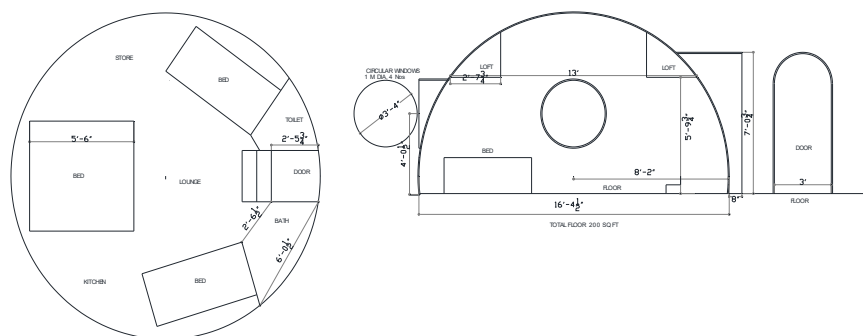


Figure 1: Internal detail of a house of 200 sq. ft.

It is a concept which can be further developed into a mammoth tree housing a whole village with no land requirement. The Hemispheres can be geodesic in form for easy construction. We can even erect a mini colony even at the busy intersection of a metropolitan without any loss of mobility.

Ref: Jain A K et al "Tree Housing: an innovative approach towards solving the housing problem of India", Journal of Housing and advancements in interior designing, Vol 1, July 2018.

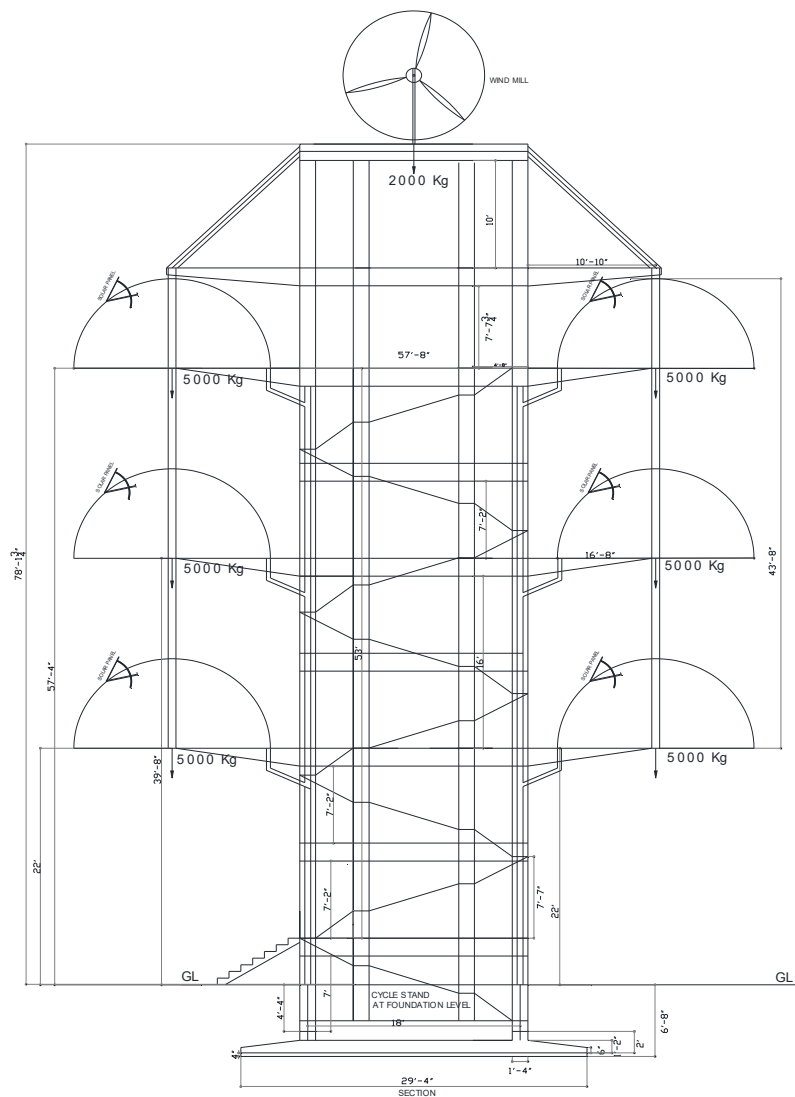


Figure 2: Section of Tree housing for 18 houses of 200 sq. ft each.



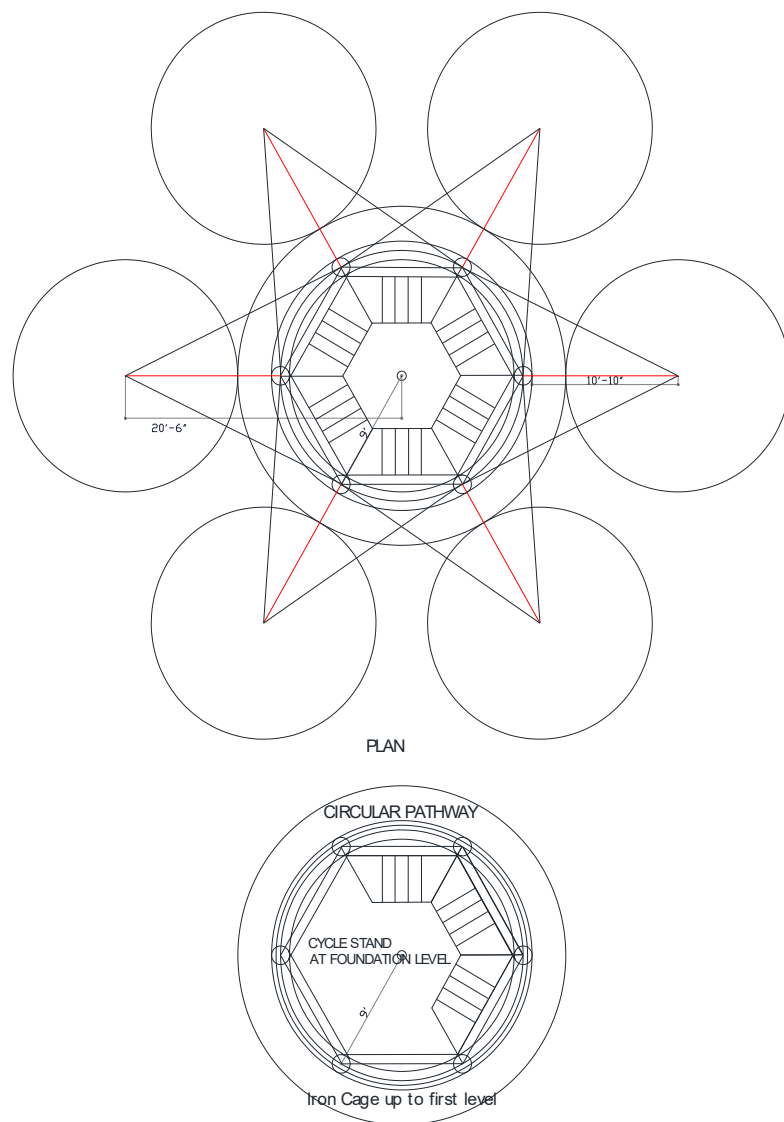


Figure 3: Plan of Tree housing for 6 houses at one level, detail of staircase and cycle stand



**Ms. V. Akila**

*She is currently a student of Swamy Vivekanandha College Of Pharmacy, TamilNadu. Pursuing Doctor Of Pharmacy (Pharm D).*

*Contact Details: akilananthini1998@gmail.com*



**Ms. G.S.Devi Shri**

*She is currently a student of Swamy Vivekanandha College Of Pharmacy, TamilNadu. Pursuing Doctor Of Pharmacy (Pharm D).*

*Contact Details: devishridsp@gmail.com*

### **31. The path of corona virus - an expeditious view**

#### **A THOUGHT: HUMANITY NEEDS LEADERSHIP AND SOLIDARITY TO DEFEAT THE CORONA VIRUS**

##### **Introduction:**

The whole world is hitting with a pandemic disease, COVID. It has become more than a health crisis and has developed as an unprecedented socio-economic crisis. Every day till now peoples are losing their jobs and facing an irreversible situation. In the 1960s scientists found evidence of human coronavirus in the noses of people with the common cold.

Coronavirus outbreak has now reached all countries except Antarctica. The virus causing COVID is SARS-CoV-2(Severe acute respiratory syndrome coronavirus-2). As we all know, it typically affects the Respiratory tract and can also affects the Gut.

According to the study till now, around 80% of people who are with coronavirus will recover without needing hospitalization. The remaining 20% are seriously ill because of their comorbidities and so develops difficulty in breathing.

As said before, these viruses caused major outbreaks of deadly pneumonia in the 21st century.

##### **Record of coronavirus:**

##### **SARS(Severe Acute Respiratory Syndrome):**

The virus which causes SARS-CoV (Severe Acute Respiratory Syndrome Coronavirus) first occurred in November 2002. In 2003, the WHO issued a global alert for warning of pneumonia in hospital staff. The Incubation period of this virus is 5 days. No standard Treatment and Vaccine were identified until now.



### **MERS (Middle East Respiratory Syndrome):**

It was first reported in Saudi Arabia and had spread to more than 20 countries. On November 30, 2018, the WHO R&D blueprint and global program on MERS convened a group of experts to discuss the methodological issues and to agree with a priori on principles in the design and also analysis of phase 2 and 3 clinical trials to evaluate MERS-CoV therapy and vaccines based on the epidemiological studies. But, Post-exposure prophylaxis evaluation was not addressed in this workshop.

MERS is a viral respiratory disease which is also caused by coronavirus and it is said as a zoonotic virus( infection passed from animals to human) and the people affected with MERS-CoV has symptoms like Fever, cold, cough, shortness of breath. Till now there is no standard treatment and vaccine for MERS-CoV.

### **COVID-19(Corona Virus Disease - 2019):**

As discussed before, COVID is caused due to SARS-CoV 2. The association between COVID and SARS is, the virus has a close resemblance to SARS-CoV. WHO published an outbreak on January 5, 2020 with an unknown cause. By the end of January, they declared COVID-19 as a public health emergency of international concern. Officially the name COVID -19 was declared on February 11, 2020 and then it was declared as a pandemic.

### **Kawasaki disease:**

It is a systemic vasculitis ( inflammation of blood vessels) of childhood and its causes are unknown. In 2005, identified a novel human coronavirus, designated New Haven Coronavirus (HCoV-NH) in the respiratory secretion of eight children with Kawasaki disease. For Diagnosis, PCR in Nasopharyngeal and oropharyngeal swabs, and by serological qualitative test detecting SARS-CoV-2 IgM and IgG, respectively. The Proinflammatory effect of SARS-CoV-2 has been reported in adults with the most severe respiratory complications of COVID-19.

### **Obesity vs COVID:**

Obesity is a comorbidity that raises the risk of complications in COVID-19. Due to obesity, inflammation occurs in adipose tissue in which the immune system acts upon it. Circulating levels of cytokine and protein which are released by adipocytes are associated with inflammation in obese individuals. Inflammation of adipose tissue generates chronic and systemic metabolic alterations leading to the risk of infection by Severe Acute Respiratory.

### **Conclusion:**

This is where we all find ourselves today, with migrants stuck between a closed border and the danger from which they have fled, quarantined inside tight shelters, with a deadly pandemic surrounding us.

These association of diseases with COVID is done to create awareness and to avoid the anxiety of common people. From the above essay, seems that the present situation was been faced before by the people and the present situation is a continuity of that, so there is no reason for anxiety and the common people should understand about every nook and corner of the ongoing situation as it may avoid the anxiety of them.



**Ms. Priyanka Bargal**

*Priyanka Bargal is associated with the School of Economics, Devi Ahilya University, Indore, Madhya Pradesh, India. She has about 16 years of experience.*

*Contact Details: priyankabargal2005@gmail.com*



**Mr. Hitendra Bargal**

*Hitendra Bargal is working with Government College, Gunnor, District Panna, Madhya Pradesh, India. He has about 21 years of experience in academics and research.*

*Contact Details: bargalhitendra@gmail.com*

## 32. Pandemic (covid-19) and our life style

### Introduction

The whole world is suffering from a huge pandemic i.e. COVID -19. It is a very dangerous disease, which can spread very fast among people. A single corona positive person can spread it to thousands of people and those thousands of people can spread coronavirus to lakhs and even crores of people in any developing or developed country. It also have a lot much impact on the country's economy. The treatment of COVID -19 is not discover yet, this makes it more dangerous. In the beginning, the citizens were not concerned about this disease because there were very less cases but now it has become a very huge problem for every Government in the world.

Saving lives of people is the first priority of the Government that's why all the Governments are seriously concerning about this problem but then also some people who are not understanding and are not following what the Government is saying; that's why the cases are increasing and thousands of people are dying by the crowned shaped COVID -19. However, it is not inevitable like "Thanos" (Villain of Hollywood Movie – Avengers: Infinity War & Avengers: End Game) and it can be prevented and defeated by our immune system. Researchers are trying their best to make medicines and vaccine to boost our immune system. Therefore, we can defeat COVID-19. Making such vaccines and medicines is a very difficult task that is why we should co-operate with the doctors, nurses, supporting staff and local administration. By following the preventive measures applied by our Government, we can save our families and us by this pandemic.

Pandemic can return in another form of virus which can be more dangerous than covid-19. That is why we should always be ready with all the preventive measures and essential things to face any problem or pandemic. In present, Indian Government and many other governments in the world are continuing with the lockdown to prevent the spread of covid-19. Lockdown is a state of isolation or restricted access for citizens as a security and preventive measure.

The philosophers who are studying the virus are saying that the vaccine for the COVID-19 will be made end of 2020 i.e. 12 months after the virus is discovered. All the great research laboratories in the world under the supervision of World Health Organisation (WHO) are trying their best to make the vaccine that will further increase our immunity against COVID-19



India is also going towards research to invent vaccine of COVID-19. Indian Council of Medical Research (ICMR) and other laboratories in India are under testing process to develop vaccine. Till the vaccine is not discovered all the Governments in the world are continuing with the lockdown and are presenting many preventive measures for slowing down the speed of COVID-19. Our lifestyles are changed largely because of COVID-19. The change in our lifestyle has positive as well as negative effects. Due to the lock down we all got a lot of time to spend with our families and to know more about each other.

We can also use this valuable time in developing our skills of cooking, writing, reading. However, the only thing of which we have to take care is do not go out of our home because this virus does not come in our home on its own but we take it with us when we come in the contact of a COVID-19 positive person or the object he/she touches. On the other hand, the people who do not work in their hometown are suffering from many problems as if they are not getting anything to eat and they are not with their families. The doctors, nurses, supporting staff and local administration also have a lot of change in their life styles. The doctors, nurses and supporting staff are handling many cases together and are suffering from a lot of stress. All of these people are working with a lot of risk because they are coming in contact of many people and some of them can be covid-19 positive also.

### **Conclusion**

There is a large number of advantages of lockdown, like due to lockdown we are breaking the transmission chain of covid-19 and preventing it from spreading. We are also getting a lot of time to spend with our families and love ones. We can develop or upgrade new skills and qualities, which will help us in future. A drug or alcohol addict person can also leave his/her addiction because they cannot purchase any kind of drug or alcohol in this friend like lockdown.

While facing any pandemic, we should only concentrate on the positive points of the particular pandemic that influence our lives and forget thinking about its harms and negative points on our life because while thinking about them we only get stress and worries. We should do productive work in this wealthy time and spend this time with our love ones. We can improve our skills; we can do future planning; enjoy our hobbies and many more.

We have to make sure that there should be no loss in our country's economy by any pandemic. In today's scenario, our country's government is launching many new schemes and policies, which are helping to fight against this pandemic and decreasing the amount of loss in the economy, these practices should be followed by every country while fighting with any pandemic. The other sectors of development of a country like teaching, manufacturing, service, etc. should not be weakened while facing any pandemic. We should think that our lifestyle is normal and we should only follow some preventive measures, which will save our lives. Be happy; do not worry about anything because every pandemic or problem has an end.





**Debasis Samanta**

*Designation Founder & CEO- Healthism*

*A sales and marketing professional with an eye to pin-point current and future consumer trends/market gaps and transform them into scalable business ventures. With sound understanding of technology and consumer behaviour and a creative bend of mind, Debasis leads from the front and likes to get things done from ideation to implementation.*

*Contact details: [debasis@healthism.co](mailto:debasis@healthism.co)*

### **33. Healthism Savings Card – A simple solution for non claimable healthcare expenses.**

Even today, out-of-pocket expenditure (OOPE) on healthcare remains high across states and across socio-economic groups in India. According to the latest National Health Accounts (NHA) estimates released last year, patients bear as high as 61 per cent of the total health expenditure by themselves.

Catastrophic health spending (CHS), where families lose all their savings to meet the health care expenses of a family member remains one of the main causes of abject poverty in India. This is the primary challenge preventing India from breaking into the league of prosperous nations. This is despite large investment in central and state sponsored healthcare schemes for public healthcare like Ayushman Bharat - National Health Protection Mission etc. In fact, total private spends on healthcare are close to double the Central and State government spends on public healthcare in India.

The majority of out of pocket expenses are due to inadequate or total lack of health insurance. Added expenses are due to the fact that numerous healthcare related expenses such as OPD expenses and adjunct therapies are not included by insurance providers. Thus government and private initiatives to provide more and better healthcare infrastructure and also more reasonable charges do not really help.

Healthism (recognized by DIPP (Department of Industrial Policy & Promotion) under Start up India initiative as an innovative start up), working out of Mumbai, has recognized this gap and developed a very simple yet effective solution to address OOPE. The Healthism Savings card offers savings on non-claimable expenses that we nevertheless incur on a day-to-day basis. These include those at pathology labs, diagnostic centers, pharmacies, dental clinics, nursing homes, hospitals, polyclinics, specialist and GP consultations and many more. To this end Healthism has partnered with more than a lakh facilities who offer special savings and discounts to Healthism members. As a result there are almost four lakh members across Maharashtra and Gujarat today and the number is just growing.

Healthism has created an ecosystem by collaborating with a range of health care service providers at various locations. The Healthism business model is based on customer lifetime value and customer loyalty. In 2019 Healthism established their credentials as a caring organization by providing Healthism cards to all staff of Mumbai Police in an initiative launched by the then CM Shri Devendra Fadnavis. Since the start of the Corona pandemic the company has been of assistance to large numbers of families who require healthcare. This is a result of all the large national labs as well as local labs and healthcare providers having partnered with Healthism.

## Main areas where Healthism savings card is most beneficial:

### Pharmacies:

Every family has a regular spend on medicines, even more so those with elderly parents and kids. Healthism provides special 15-20 percent discounts at local pharmacies. It also facilitates home delivery of medicines through its licensed retail partners.

### Dental Care:

Today dental care is considered a necessary part of wellbeing unlike even a few decades ago. Dental care and surgeries cost substantially but are not covered by health insurance. Healthism dental care partners offer 20 to 40 percent savings on all kinds of consultations and treatments.

### Pathology and Diagnostic centers:

Families have to periodically face a medical issue which calls for preliminary diagnostic tests e.g. blood tests, X-rays, scans etc apart from outpatient treatment. These can be very expensive but are generally not covered by Health insurance. Healthism Savings Card provides an average discount of 20 percent at these partners.

### Innovative features of Healthism Savings Card:

1. 1 lakh plus partner facilities (The largest in India with strong presence in Mumbai, Ahmadabad, Pune, Surat & other top cities in India where Healthism facilitates the treatment and helps patients to get discount).
2. Wide Category of partner facilities honouring the Healthism card including Hospitals, Multi-specialty hospitals, Dental Clinics, Pathology Labs & Diagnostic Centres, Eye Specialists & Opticians, Pharmacy, and many more.
3. A single family card (Family of 6 enjoy the same benefits throughout the membership validity)
4. No upper limit on discounts that your family can avail.
5. No limit on usage. (Can be used any number of times throughout the year.)
6. Partners range from small neighbourhood to national level facilities.
7. Partners include wellness services (Trichology, Nutrition, Fitness, and Gym), in addition to HealthCare services.
8. Costs a very reasonable Rs 999 plus GST per year. For an average family of five members this works out to just under Rs 200 each.
9. Members can avail of 1 GB free space on healthism.co available for each member to digitise and save medical records in an encrypted and password protected space
10. Partners include Ambulance services for even non emergency transport.
11. Special discounts on maternity expenses and management of chronic diseases



### Forthcoming developments :

Healthism is working with various banks and NBFCs to offer all its card users a pre-approved loan facility specifically for medical expenses.



## Disclaimer

“PHD Chamber Journal of Ideas & Innovations” is prepared by PHD Chamber of Commerce and Industry and Department of Commerce. This research report may not be reproduced, wholly or partly in any material form, or modified, without prior approval from PHD Chamber of Commerce and Industry. It may please be noted that this research report is for guidance and information purposes only. Though due care has been taken to ensure accuracy of the information to the best of the PHD Chamber's knowledge and belief, it is strongly recommended that readers should seek specific professional advice before making any decisions. Please note that the PHD Chamber of Commerce and Industry do not take any responsibility for outcome of decisions taken as a result of relying on the content of this research report. PHD Chamber of Commerce and Industry shall in no way, be liable for any direct or indirect damages that may arise due to any act or omission on the part of the reader or user due to any reliance placed or guidance taken from any portion of this publication.

Copyright 2020, PHD Chamber of Commerce and Industry

ISBN No. 978-93-84145-97-2

No part of this publication including the cover, shall be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of, and acknowledgement of the publisher (PHD Chamber of Commerce and Industry).

## Editorial Team

**Dr S P Sharma**

Chief Economist

PHD Chamber of Commerce and Industry

**Dr Niti Bhasin**

Associate Professor

Department of Commerce

Delhi School of Economics

University of Delhi

**Dr Seema Joshi**

Associate Professor of Economics

Department of Commerce

Kirori Mal College

University of Delhi

**Ms Laxmi Devi**

Assistant Professor

Gargi College

University of Delhi

**Mr Shantanu Shah**

Deputy Secretary

PHDCCI



**NATIONAL APEX CHAMBER**

**PHD CHAMBER OF COMMERCE AND INDUSTRY**

PHD House 4/2 Siri Institutional Area, August Kranti Marg, New Delhi - 110016

Phone: 91-11-49545454 | Fax: 91-11-26855450, 26863135

Email: [research@phdcci.in](mailto:research@phdcci.in) | Website: [www.phdcci.in](http://www.phdcci.in)