Healthcare Sector Emerging Opportunities for SMEs
Newly launched cars at special lease prices!

**Mahindra XUV300**
₹25,330*

Add maintenance at just ₹3,000 p.m.

**Nissan KICKS**
₹38,500*

Add maintenance at just ₹4,500 p.m.

**Why Lease?**
- Zero down payment
- Fully tax deductible
- Includes full term insurance
- Option to include maintenance
- Upgrade car at end of lease term
- No impact on borrowing capacity

Interested in any other car or these cars for other locations? Contact us!

*Per month, for base variant, inclusive of taxes. These prices are indicative for Gurgaon, 36 months & 36,000 kms.

leaseplan.com

Leasing is a smart way of acquiring vehicles. It allows you to unblock your capital and provides for financial flexibility that a business demands. It also takes away the hassle of maintenance, insurance, repairs and resale. What you are left with is more cash and time to grow your business!

**Vehicles for:** Corporates | SMEs | Self employed professionals

**For more information:** Email: reachus@leaseplan.co.in | Call: 1860 500 5050/1860 419 5050
Bay81, a Digital Interactive Solutions company specialized in -

- Corporate Movies
- Web Development
- Training Modules
- Product Videos/Tutorials
- Motion Graphics

- Holographic
- Content Development
- Projection Mapping
- 2D-3D Character Animation
- Product Modelling and much more....

We do this by bridging the communication, process, skill, or functional gaps keeping your business from achieving expected results. Our methods engage people’s heads and hearts – because you need both to get the job done.
While India has achieved creditable economic growth in recent past, it has not made commensurate progress in the vital social sector as healthcare. However, improvements in healthcare expenditure, outcomes, and infrastructure, mainly on the public side, have not kept pace with economic growth trailing behind both advanced economies and her immediate neighbors like China and Sri Lanka. The result is the persistent poor quality of healthcare in India. Nearly 2.4 million Indians die of treatable conditions every year and the situation continues to be dreadful for rural and urban poor who have little or no access to quality and affordable healthcare. The recently launched scheme 'Ayushman Bharat' may prove to be a silver lining and change the very face of healthcare sector in India benefitting the worst affected groups who indeed pay a major chunk of cost associated with economic growth.

In this article, Dr V.S. Gajavelli and Dr. Dona Ghosh review the healthcare sector in India and spell out a host of opportunities available and the potential for the country's sprawling SMEs.

SMEs in Healthcare: Compelling Prospects & Challenges

Turning India's Strategic Need into an Opportunity

India is poised to emerge as one of the leading global markets over the next decade given the positive economic scenario and significant proactive changes in governance and its development strategy. In its World Economic Outlook Update, the IMF estimates that Indian economy will grow by 7.4% in 2018 and 7.8% in 2019, making it the world's fastest-growing emerging market. Further, India poised to be the third largest economy by 2030. These projections surpass India's new growth rate of above 6.5% for the earlier 25 years of ongoing market reforms. But if India has to maintain it's much needed growth momentum in the long-term as anticipated by various think tanks and top-notch investment advisory such as Goldman Sachs (Dreaming with BRICs-the Path to 2050),

one key requirement is to harness the potential of its demographic dividend—viz., 2/3 of its population in the working age-group, 15 to 64 with median age still just 24 years. That crucially hinges on the vital social infrastructure such as universal healthcare, apart from education and know-how for better employability and to realise the dreams of a billion Indians.

Though India has seen improvements in healthcare access and quality indices last 25 years, the recent Lancet study (2018) ranks the country 145 among 195 countries in terms of quality and accessibility of healthcare, behind its neighbours like China, Sri Lanka, Bangladesh and Bhutan. During the same period India added more than 450 million people by 2016 at a time when people below poverty line fell by half. The period of rising per capita income post-1991 market reforms has been actually marked by a 'dual disease burden', a rise in both communicable diseases (CDs) and a spurt in lifestyle or non-communicable diseases (NCDs), which accounted for more than 50% of deaths in 2015-16, up from 42% in 2001-03. This has in turn put further demand pressures on the already scanty healthcare infrastructure, by both government as well as private sector amenities in the country.
Advantage SMEs

The offshoot of market-driven development, growing and ageing Indians, the disease burden, increasing awareness and access to health insurance is a healthcare industry that has grown to US$81.3 billion in 2013 and expected to touch US$372 billion by 2022. Driven by strong demand and attractive opportunities the industry projected to grow CAGR of 16% to 17% by 2020, up from CAGR of 11% in 1990 – according to India Brand Equity Foundation (IBEF).

Then again it’s the private sector to exploit the demand-side gaps and to emerge as leading player in India’s healthcare businesses, lending it both national and global credentials.

This exciting growth opportunity only convince country's Industry leaders and policy makers about the imminent growth in demand for manpower (like doctors, nurses and technicians) and healthcare facilities especially in hitherto neglected areas like suburbs and the vast rural and tribal areas to serve. This is the un-tapped opportunity where we are pitching for advantage Indian SMEs, given their unique context, scale and positioning in the healthcare industry.

With enormous growth potential the healthcare sector poised to boom immensely and several consulting think tanks such as KPMG identified the opportunity set for MSMEs in the following areas:

- Providing affordable healthcare, especially in rural areas
- Low cost medical devices, which can be used in rural areas
- Medical consumables like surgical gloves, scrubs, syringes etc.
- Low cost surgical procedures to reduce the cost of healthcare
- Medical tourism
- Diagnostic labs

Indian Healthcare Sector: Demographics, Morbidity & Market Scenario

The rate of chronic diseases is a surging phenomenon in India and the world as well. However, the domain of co-morbidity i.e. the existence of more than one illness is little explored and the exact demand for related healthcare services is unknown even today. The glimpse of growth in demand for healthcare services can be presumed from the present demographic and social indicators.

India is aging faster than China and expected to be the world's largest resident of aged people, approximately 340 million, by 2050. Estimation is projected by HelpAge India. However, for the definition of elderly, WHO definition is considered i.e., people with at least age of 60 years of chronological age are considered as aged). According to the United Nations Fund for Population Activities (UNFPA) Report, India Ageing Report (2017), share of population over the age of 60 could increase from 8% in 2015 to 19% in 2050. Within this span of time, the growth rate of the elderly will be 320%, whereas the oldest-old group i.e., 80 years and above, will grow by 700%.

The demographic transition in India is the outcome of gain in life expectancy over the last couple of decades on account of significant improvements in medical sciences. Phenomenally, medical interventions have enabled human to a large extent to postpone their death through control over drastic adverse consequences of morbidities. However, the extended life comes along with the penalty of health problems because old age is susceptible to the chronic morbidities. Further, exposure to increasing air pollution and communicable diseases affect all age groups and upturn morbidity levels apart from amplifying the co-morbidity amongst the most susceptible age group, mostly elderly.

Co-morbidity has close congruence with old age. In India, more than one third, say 34% of elderly individuals suffer from at least one and 23.6% have multiple chronic morbidities. The incidence of co-morbidity is more extensive among the oldest-old of above 80 years at 33.97% than 28.17% for the 70-79 years old individuals.

Young age group is also getting affected by chronic ailments due to unhealthy lifestyles and exposure to environmental risks such as effluents, emissions, wastes and resource degradation. Sedentary activities, regular alcohol and tobacco consumption and lack of physical exercises are some of the reasons for the mounting burden of the non-communicable lifestyle diseases (NCDs) - such as atherosclerosis, heart disease, and stroke, obesity and type-2 diabetes. Surprisingly, almost 61% of deaths in India happens due to lifestyle diseases as researched in the book 'Body Burden: Lifestyle Diseases', published in 2017. The authors have argued that increasing environmental risks, for example, the unscientific use of pesticides and fertilisers are the major reasons for the predominance of NCDs. Presence of DDT, biphenyl A, MSG and arsenic in the environment causes a high risk of obesity that later accelerates the chances of Type-2 diabetes, high blood pressure, cardiovascular diseases and heart attack. Another study states that around 30% to 40% population in the age group of 34 to 64 old suffers from heart-related problems in the country.

Diagnostic Healthcare Services: SMEs' Opportunity Galore

The ray of hope is that the chronic co-morbidities can be controlled with the help of appropriate diseases management. The physicians often suggest for a regular health check-up and routine screenings to have effective control over the NCDs. This opens a new arena of demand in the healthcare market – the increased need for diagnostic healthcare services.
The major requirement of regular monitoring of chronic morbidity requires diagnostic tests at a regular interval. For instance, thyroid needs a blood test in every few weeks, approximately once in 3 to 6 months, which depends on the instruction of physician and the condition of the patient. Considering the number of patients, almost 11% of Indian people suffer from hypothyroidism – more than five times than the UK and two times than the USA. Though the chronic ailment requires continuous monitoring, people fail to follow-up on medical advises due to lack of infrastructure, poorer access to the diagnostic facilities and the much needed cost-effective solution. That is where as compared to large players the SMEs fit the bill well and exploit this mega market opportunity in a better way, given their scale and agility, convenience, financials and new found aspirations.

**Analysis of Indian diagnostic healthcare market: Widening Demand-Supply Gap**

Five major players, SRL, Thyrocare, Dr. Lal Path, Metropolis, and Apollo diagnostic together have major shares of the market. However, the facilities are concentrated mostly in the metropolitan urban cities, in high-income clusters, and thinly distributed in the rest of the geographic sub-urban and vast rural India. The diagnostic tests in the rural areas are commonly conducted in the Government hospitals and services are very limited in number as against the ever-increasing demand for medical amenities and services.

Apart from the voids in medical services, the healthcare market also suffer from the highly unorganized structure and most importantly the user-patients lack the basic trust in the existing dispensation of medical services due to lack of any defined norms by concerned government agencies on the quality of equipment, services and the expertise of lab technicians. Further reliability, lack of machine automation in the systems and required trained technicians and professionalism continue to plague the sector from growing to its potential.

The services of diagnostic test centres can be fragmented into seven broad categories while the test methods have four possible domains of blood, urine, and stool and body tissue, as illustrated in Figure-1. In general, some basic services – for example, blood-based tests like anaemia, thyroid, urine-based tests, X-ray, and ultrasound are available in most of the service centres, but the rest of services are absent. Only the substantially larger and well-equipped, players provide all services but again in urban-concentrated and metro locations.

**Urban-biased Healthcare Infrastructure: Titanic Potential for SMEs**

Government run healthcare system in India has a three-tier system: Primary Health Centres (PHCs) serves mainly in the villages; Secondary level consist of health centres at district levels; and Medical College hospitals cater at the tertiary level mainly located in city centres. Moreover, few advanced medical institutes of national importance also exist with clinical and research facilities, mainly in the big cities. The similar hierarchical system is also maintained in the private sector. Diagnostic tests facilities are available at the secondary and tertiary health centres. At present, the size of the diagnostic industry hovers around 5 billion dollars with a growth of 14% to 16% per year. Around 1 lakh diagnostic centres exist in India, where 70% of labs conducts pathology (that performs urine and blood tests) and only 30% do radiology and imaging like X-ray, MRI, CT scan, ultrasound and others.

However, these test centres are tremendously clustered in the big cities and only a handful of them serve in the rural and suburban areas. The people belong to non-urban areas, therefore, have to travel long distances to proximate cities for the diagnostic tests and basic medical consultations. So the present healthcare infrastructure is actually urban-biased and necessitates the need to establish new test centres in sub-urban and vast rural India to serve the burgeoning demand as projected.

**A Compelling Business Proposition for SMEs**

Huge unfulfilled demand exists for all the diagnostic tests in the minor cities, suburbs and rural areas and also in the metropolitan cities provided standardized user-friendly and cost effective services assured. The amount of initial investment is not very large. Multiple existing companies also provide franchise options, ranging anywhere 3 to 5 lakhs of initial investment to start a diagnostic centre for the walk-in patients.

To start diagnostic centres at SME level in India, the following steps are essential:

- Firstly, registration – the business plan has to be registered to get the status of a legal entity for all the benefits. License is mandatory as it indicates that the test centre is maintaining all the rules and regulations and the reports of the centre will also get acceptance from the hospitals;
- Secondly, personnel – qualified biochemist, pathologist, microbiologist, and lab technicians

![Diagnostic Services Framework of Service Provision](https://www.smeworld.asia)
proactive with reliability, transparency and delivery in their services if they aspire to remain competitive and sustain competition from large players.

**Critical policy support: A Way forward**

The enabling opportunity framework has to consider latent opportunities for creating support for healthcare SMEs to grow and facilitate partnering approach by the various stakeholders. At different stages of their growth, SMEs need support in various forms. The opportunity framework should be designed based on maturity stage and scale of firms and should encompass all forms of incentives and assistance to SMEs. The opportunity framework revolves around five typical growth enabling pillars:

- **Cost effective infrastructure** with positive bearing on top lines and bottom-line.
- **Simple and common SME regulatory aspects**
- **Easy and reliable funding** at various stages of SME
- **Develop framework for utilisation of performance incentives** like MSME Development Fund and MSME technology up-gradation fund
- **Employee skilling through approved courses to receive direct incentives under Skilled India initiative.**

These new initiatives create significant support for the healthcare SME sector to develop in future. Further, the policy has to facilitate partnering approach by various stakeholders by way of incentives rather than compliance thereby channelizing the much needed resources and infrastructure in a better way.

More importantly, it is also the responsibility of the Government to support and nurture new wave of healthcare SMEs in India’s MedTech sector, that are solving the healthcare challenges and at the sometime start-ups too. They make products that compete with MNCs primarily on affordability. Further, there is also a new breed of MedTech start-ups producing novel technologies and patented products – tapping specific challenges and associated economic opportunities, called ‘purposeful innovation’ – for healthcare challenges facing the average Indian. It’s imperative for Indian policy makers and responsible agencies to support such indigenous innovation in these promising days as they can make India the MedTech innovation hub for emerging markets globally – a very promising and bright opportunity to be handled well, else prospects seized by someone out there.

---

**About the Author**

**Dr. Gajavelli V S** is a Professor and Chairman, Centers of Excellence for Sustainability, Growth & Development at Institute of Management Technology Nagpur, India. He has more than 26 years of experience in research, management education, conceptualization and administration of executive education programs, in-company training programs, faculty development programs and consulting.

**Dr. Dona Ghosh** is an Assistant Professor of Economics at Thiagarajan School of Management, Madurai. She has completed her Doctorate from Indian Institute of Technology (IIT) Kharagpur. Her areas of interest include aging, health economics, labor economics, and demography and data analysis. She works with various national and international Institutions for teaching and research purposes. She is working extensively on the health and vulnerability situations of elderly in India, and interested in exploring the possible solution of the problems, associated with the healthcare services.
Though Indian EVs market is still at a very nascent stage, comprising only 1% of the total automobile sale, the future of the auto industry seems to be in EVs. According to the TechSci Research, a consultancy firm, India's EV market is expected to grow at a compound annual rate of around 37% over the FY2018-FY2023. The major Original Equipment Manufacturers (OEMs) as well as component manufacturers are gearing towards adoption of EVs as they are expecting a major push coming for such vehicles any time in the period ahead in the form of a firm commitment from the government towards such vehicles through National Auto Policy and the second phase of the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME –II). For example, in the car segment, Mahindra & Mahindra, a leading auto player, has already announced that it will expand its portfolio of EVs by adding e-KUV100 to it, which currently comprises of electric cars -e20 and e-Verito, electric van – eSupro and electric three wheelers –Treo and e-Alfa mini. Tata Motors, another major player in the automobile segment, has launched electric Tiago and electric Tigor and is aiming to expand its portfolio by bringing in altogether new electric car in the next two years. Similarly, Maruti Suzuki, the largest automaker in the country, is aiming to launch an electric version of its one of the best-selling cars, the Wagon-R, by mid May 2020.

**EV Galore**

Hyundai Motor Cos Ltd., the second largest car manufacturer in the country, is expected to launch its first electric car KONA in the country by middle of this year. In the bus segment, Tata Motors has on offer Starbus Ultra Electric range of buses, which the company will be supplying to State Transport Undertaking of six cities across the country. Apart from
Tata Motors, Mahindra Truck and Bus, Ashok Leyland, Eicher, Volvo, JBM, etc., also have built up e-bus manufacturing facility in the country.

At present 95% of the EV market in India is dominated by two and three wheelers. Apart from well-established players, such as Hero motors, Okinawa and Lohia Auto, Honda, Bajaj Auto and TVS Motors there are several others that are working on electric scooters and motorcycles. Apart from many others, some of the players in two wheeler segments, such as Bajaj auto, are also into the manufacturing of electric three wheelers.

**Why Disruption?**

The disruption is caused by the large differences in EVs and the conventional vehicles. EVs run on battery while conventional engines use petrol or diesel. Therefore, EVs require electric motors rather than internal combustion engines. Electric motors or induction motors are machines that convert electric energy into mechanical energy, whereas internal combustion engines are the heat engines where the burning of a fuel occurs with oxygen in the air to produce heat and light.

Mechanical complexities.

EVs are mechanically much simpler than conventional vehicles. EVs have much lesser number of moving parts than conventional vehicles. For example, a very simple electric motors may have just three moving parts - the shaft and a bearing on each end, whereas internal combustion engines have hundreds of moving parts - pistons, connecting rods, valves, oil and water pumps, fuel pump, etc. Overall, in electric cars there are as low as 18 moving parts, whereas in conventional cars there are more than 2000 moving parts. A lower number of moving parts in EVs implies less friction between the components, and hence less wear and tear, less chances of engine failure, more reliability of various components of vehicles and lower maintenance cost. A lesser number of moving parts also implies lesser fuel consumption and more fuel efficiency.

Though there are several differences between the EVs and conventional vehicles, there are several similarities between the two as well. The exterior of the two types of vehicles in most cases is similar. Apart from this, many other components - suspension, breaks, tyres, etc. - are very similar in the two types of vehicles. But, given these apparent similarities, a fine tuning of these components is also required to suit the basic nature of EVs. For example, torque of EVs can be quite hard on tyres, especially with the heavier and more powerful vehicles, which can fasten wear and tear of tyres used in EVs by 30%. Similarly, batteries in EVs are very heavy which causes compression of the springs and the space available for suspension travel. Therefore, various modifications are needed so that the suspension travel and suspension geometry is restored in the vehicle.

Given the differences and similarity in the EVs and conventional vehicles, Idaho National Laboratory indicates that in EVs, petrol tank is replaced by battery, petrol pump by charger, internal combustion engine by electric motor, carburetor by controller, and alternator by DC/DC converter and DC/AC convertor. Besides, there is no need for smog controls in EVs as that needed in the conventional vehicles because EVs produce zero direct emissions.

Evaluating the impact of EVs on the automotive industry in India, a report by Ernst and Young points out that the disruption in the automotive segment will have negative impact on engine parts, clutch, radiators and gears, whereas electric motors, batteries, wiring harnesses inverters, microprocessors and controllers would be benefitted by the disruption. The impact on other major components such as steering systems, seats, brake lining,
headsights, leaf springs and shock absorbers would not be much.
Lesser mechanical complexity, lower maintenance cost, higher fuel efficiency along with growing concerns over environmental sustainability and government's mandate to control pollution level in the country are expected to bring major shift in the demand for automobiles from conventional vehicles towards EVs.

Wide Adoption of EVs
A large potential demand exist for EVs, but the shift is not smooth for various reasons. The first and foremost of these is the high cost of EVs. EVs are mostly run on lithium batteries, which are efficient but very expensive and account for around 45% to 50% of total vehicle cost. Second, there are range issues with the batteries that create uncertainty about reaching the desired distance without breakdown of the battery. Third, the conversion of the demand into sales of EVs is dependent on the availability of supporting infrastructure, such as sufficient high speed battery charging stations. So far the charging stations are miniscule in number compared to the demand in the country.

Opportunities for SMEs and Startups
Among the differences, challenges and the disruption lies the opportunities for SMEs and startups. EVs are expensive and development and manufacturing of these require huge amount of capital. But, SMEs and startups without any legacy of or previous engagement and burden of protecting their existing industry or setup have better changes of evolving and developing newer technology and achieving faster growth than the existing setups and manufacturers involved in the manufacturing of conventional vehicles, related components and related services. Some of the opportunities that can be reaped by the SMEs and startups are as follows:

Customized electric car manufacturing: The SMEs and startups may not be able to compete with the giants that are already investing in huge amounts to come up with production of cheaper EVs for the masses. But given the lesser complexity and higher flexibility with which components can be fitted in EVs, the SMEs and startups can provide customized solution to the customers, which are less capital incentive and more labour intensive.

Battery manufacturing: Lithium batteries, the major component of EVs, are mostly imported from China, which produces them at the cheapest rate because of economies of scale that the companies over there enjoy. As per Mordor Intelligence, India's Lithium–ion battery market is expected to grow at a robust CAGR of 29.26% during 2018-2023. Given the vast market for these batteries, many auto component manufacturers as well as energy solution providers, such as Exide Industries Limited, Amara Raja Batteries, HBL Power System, Eon Electricals, High Energy Batteries, and Euclion Energy, have either started providing energy solution or manufacturing lithium battery packs in the county in collaboration and partnership with the foreign players. But, startups can also address many problems of the lithium batteries, such as high cost, heavy weight, low range and slow charging speed.

Critical Elements
India does not have known source of lithium and cobalt, the two critical elements that are required in the manufacturing of lithium-ion batteries. Therefore, the cost of production of lithium batteries in India is very high. To reduce the cost of production, startups can experiment with alternative materials to make efficient, light weight and cost effective batteries. The alternative to lithium batteries that are already under experiment or testing phase are Gold nano wire batteries, grabat graphene batteries, copper foam batteries, aluminum –air batteries, etc.

The problem of charging time has also to be addressed by finding the ways in which the battery can be charged while driving the vehicle itself or on the go. It can be a wireless technology that UK is experimenting to charge EVs on the go from the remote sources such as road side charging units or wireless charges fitted under the road or charging through solar panels or regenerative braking.

Developing battery swapping technology: As lithium batteries are expensive, startups can invest in the development of battery swapping technology, i.e., the process through which a drained battery is swapped with a fully charged one. The battery swapping technology reduces the vehicle refueling time from hours to just few minutes. There is a lot of scope to develop such technology, especially the technology that is suitable for Indian roads and weather conditions.
Developing of portable EV power bank: As range of the batteries is one of the major problems in EV adoption, startups can explore the idea of developing a portable power bank, which can be used for charging the batteries of EVs on the go.

Recycling degraded battery packs: Battery packs are considered to be degraded when they can hold less than 80% of their original capacity. These packs are either repurposed into stationary storages and after further degradation they are recycled. The SMEs can create business opportunities by reassembling the old packs into new purposes and recycling the components.

Setting up electric battery charging stations: Enabling infrastructure is a key for the success of EVs. To accelerate the growth in the number of charging stations, the government has rolled out a policy for EV charging infrastructure in December 2018. As per the policy, the government will delicense the setting up of the charging stations. Such charging stations will be free to obtain electricity from any open power company through the open access system or a distribution company. The government aims to have public charging station at every 3 km on main roads in one million cities and every 25 km on national highways. Once the policy is implemented, it will open up a lot of opportunities for the small players with variety of business models. The SMEs and the startups that are already involved in offering software and services for EV charging networks may even be able to provide their own charging stations for use to vehicle owners on rental in AirBnB style.

Manufacturing of EV components, accessories and spare parts: As discussed above, many components in EVs, such as tyres, suspensions, air-conditioning, lights, electric cables, windows, doors, brakes, brake pads, battery charging tools and diagnostic equipments, would require fine tuning as per the requirements of the EVs. Startups and SMEs can look into business opportunities from such product developments.

Setting up EV repair and servicing garage: As EVs differ substantially from the conventional vehicles, repair and maintenance services of such vehicles require different skill setup. The existing small enterprises or garage owners need to reorient themselves with the new skill sets. The startups, without the baggage of old setup, would have an advantage over here over the existing service providers.

As the EV market is still at an exploratory stage, a lot of risk is involved in the investment in the different facets of EVs. The SMEs and startups with small funds can mitigate the risk by exploring tie-ups with large OEMs, and collaboration among themselves. For example, battery manufacturers can tie-up with charging operators for battery swapping. EVs charging stations can tie-up with power distribution firms. Similarly, SMEs and startups in the manufacturing of e-scooters and e-bikes, can tie-up with online food ordering aggregators like Swiggy and Zomato.

About Dr. Veena Keshav Pailwar
Dr. Veena Pailwar is Professor of Economics at the Institute of Management Technology (IMT), Nagpur, India. She has more than 20 years of research and teaching experience in the Institutes of repute. She has published several research papers, cases and books. Her areas of research interest are electric vehicle market, cement industry, financial sector modeling, foreign capital flows, impact of financial, fiscal and external sector reforms, economics and business environment and forecasting methods.
Industry 4.0 is on the anvil. It comes as a promise to embark upon a new industrial revolution seeking to synergise advanced manufacturing techniques and the Internet of Things (IoTs) to give rise to manufacturing systems which are interwoven and empowered to communicate, analyze and use artificial intelligence (AI) to drive an intelligent action back in the physical world.

In the era of disruptive technology each segment of society is bound to adapt to new and evolving dimensions. Designed in Germany, the concept is gaining popularity globally and is regarded as the 4th Industrial revolution expected to convert the traditional manufacturing industry into ‘smart factories’ where the entire supply chain system will be managed by robotics and AI. With its successful implementation, manufacturing units shall be able to operate on real time basis with visible increase in revenue by using data analytics.

R. Sumitra, in this article throws light on the concept of Industry 4.0, its requirements for successful implementation, opportunities and challenges.

Industry 4.0 A Revolution: Opportunities and Challenges for SMEs

It is a revolution in which computers, automation and robotics will be used to create fully digital value chain. With the use of technology the traditional plants will transform into smart factories.

It focuses on end to end digitisation of all physical assets and integration into digital ecosystems.

In general, there are nine key technological components that make the foundation of Industry 4.0

Autonomous robots:
They are used to automate production methods. It connects computers and devices to communicate with each other. E commerce giant Amazon is using robotics for better delivery management.

Big Data
Big data make it possible to identify relevant information and trends that can lead to some intelligent analysis. It processes high volume of data, at a high velocity and thereby helps organisation to create new growth opportunities, efficient management and optimize business operations. Using the power of Bigdata, ixigo has launched a PNR prediction feature for train travellers.

Augmented Reality
It is a type of interactive, reality based display environment. It keeps real world focus and adds elements that aren't really there to enhance customer experience.

“L’oreal uses augmented reality based mobile app to help user to check how the user will look with certain shades and colours.

Additive Manufacturing
It uses data computer aided design (CAD) software or 3D object scanners to direct hardware to deposit material, layer upon layer in precise geometric shapes. It can slash lead times for the fabrication of tooling by as much as 40%-90%. Ford Motor Company has utilised in-house additive manufacturing processes to improve its tooling fabrication processes.

Cloud Computing
It is a method of delivering Information Technology services in which resources are retrieved through web based tools and applications as opposed to a direct connection to a server.

Office tools like “Googledocs”, “Microsoft office 365” use cloud computing thereby the users can work on their documents, presentations and spread sheets from...
Planning is required to shape future operations

- To change delivery strategies in order to align the present business with future operations.

**Benefits:**

**Productivity:** Industry 4.0 technologies enable you to do more in the same time. In other words, a factory can produce more and faster while allocating resources more cost-effectively and efficiently.

**Efficiency:** Integration of data across the value chain of the company will improve the operational efficiency. Companies like Siemens, GE are harnessing digital technology to offer best services to their clients.

**Knowledge sharing:** These technologies allow production lines, business processes, and departments to communicate regardless of location, time zone, platform, or any other factor. Data from one sensor can instantly make an improvement across multiple production lines located anywhere in the world.

**Other benefits:** In long term this smart operation techniques will provide several other benefits like better customer experience, cost effectiveness, economies of scale, increase in profitability, optimum utilisation of resources etc

**Challenges:**

1. **Infrastructure:** India is still lagging behind in terms basic infrastructure like electricity, data penetration etc. Further, the telecommunication system also suffers from unstable connection and low speed.

2. **Cyber security:** According to a KPMG report on India's cyber crime survey, 79% of the corporations in India have acknowledged that cyber security is one of the top five business risks. The regulatory environment pertaining to data privacy must also be strengthened.

3. **Investment:** Building a value chain with modern technology and inter connected processes/devices will require significant capital outlay.

4. **Skill Gap:** Necessary execution capabilities must be developed among employees across industries through proper training & development. Availability of adequate talent both at strategic leadership level and at ground level is still a challenge.

5. **Lack of scale:** Industrial automation will be justified when the volume of production is high and supply chain system is well defined. It is equally important to redesign business model for effective implementation of Industry 4.0. e.g. The role of majority of work force will change from operator to problem-solver.

**Added Business Value**

Though, it is too early to predict the accurate impact of the revolution. It is expected that one small change in one area of manufacturing segment will expected to create significant ripples in the overall ecosystem. Ultimately, if the process flow is executed properly then derived business value is expected to be much more than the investment.
Poet - “If 'right processes' are here, can 'desired results' be far behind”.

We don't know for sure what makes us successful. This realization, as simple as it is, is fundamental: Negative knowledge (what not to do) is much more potent than positive knowledge (what to do). Thinking more clearly and acting more intensely means adopting Michelangelo's method: don't focus on David. Instead, focus on everything that is not David and chisel it away. In our case: eliminate all errors and better thinking will follow. Applied to the present day education system: we cannot say what brings us success? We can pin down only what blocks or obliterates success. Eliminate the downside, the thinking errors, and the upside will take care of itself.

The real challenges lies not in the problems which we face in the institutions but the way we approach to take them on, are we losing the focus on objective and the purpose as to why we started this? Are we paying attention to the systems and processes or are we too obsessed with results and bottom lines without growing and striding towards the front. Are we mindful of what we are doing and what we are up to?

The aims and objective has to be relooked and worked upon without which we will be producing graduates from examination and mark oriented system (which might just produce employees) and will never ever move to a performance based credit system (which improves the employability quotient and in select few cases an entrepreneurial quotient). However, one has to be a firm believer in the power of processes and with due apologies to Percy B Shelly, the immortal English Poet - “If 'right processes' are here, can 'desired results' be far behind”.

We don't know for sure what makes us successful. This realization, as simple as it is, is fundamental: Negative knowledge (what not to do) is much more potent than positive knowledge (what to do). Thinking more clearly and acting more intensely means adopting Michelangelo's method: don't focus on David. Instead, focus on everything that is not David and chisel it away. In our case: eliminate all errors and better thinking will follow. Applied to the present day education system: we cannot say what brings us success? We can pin down only what blocks or obliterates success. Eliminate the downside, the thinking errors, and the upside will take care of itself.

The Way Forward

B Schools have to realize that the solutions which worked in the old-economy are not even remotely suited in this new age digital economy. The schools needs to up their game and meet the posed challenges head-on, but then it is not an easy path to tread and many old giants have fallen by way side in trying to overcome the hurdles. But before the schools who are alive to the threats and challenges embark on making changes in their existing setups to even remotely achieve what is propounded as the panacea for B School – there are few tough questions that need honest answers. What you measure is what you get. These questions pertain to both financial and operational metrics. But off late the world has realized that...
one cannot rely on one set of measures to the exclusion of other. There has to be additional measures with balanced representation of both financial and operational performance metrics.

The four most important perspectives for performance measures are:

- **External Perspective: How the stakeholders do perceive us?**
- **Internal Perspective: What must we excel at?**
- **Innovation Perspective: Can we improve our internal processes on a continuous basis?**
- **Value Creation Perspective: Can we deliver value and expand capabilities?**

**External Perspective: How the stakeholders do perceive us?**

The need of the hour is to translate the vision and mission of the institute into specific and measurable parameters that reflect the factors that really matters to the stakeholders- student community, parents, society at large and last but not the least, recruiters. Stakeholders' usual concerns are - quality, performance and service, and cost. Quality refers to as to how recruiters and society in general perceive and measure the students, service and performance measures how the institute creates and delivers value for its primary stakeholder i.e. student and cost refers to as the life cycle cost right from application submission for admission to the final placements of the student.

**Internal Perspective: What must we excel at?**

Stakeholders' perception is very vital, but these must be translated into some measurable goals and targets of what the institute must do internally to meets its stakeholders' expectations. Excellent performance, in any field, is derived from decisions, processes and actions occurring throughout the institute. The most emphatic internal measures are culled out from the business processes and delivery systems that have the greatest impact on stakeholders' satisfaction. Institutes should be very clear and precise in deciding what processes and competencies they must excel at and must specify measures for each one of them.

**Innovation Perspective: Can we improve our internal processes on a continuous basis?**

An institute's ability to improvise, innovate, invent and learn has a direct bearing on institute's value creation and delivery. The stakeholder-based internal delivery processes measures and identify the parameters that the institute considers more impactful for its growth and success. But, as we are all aware, the goals and targets keep changing. Intense competition makes it imperative for institutes to make continual improvements to their existing systems and processes.

**Value Creation Perspective: Can we deliver value and expand capabilities?**

Measures of stakeholders' satisfaction, internal delivery processes, and improvements in existing systems are derived from the institute's world-view and its perspective on key success factors. But this view may not necessarily be correct. Only through the ability to deliver processes and services, create more value for stakeholders, and also have ability to introduce new programs with innovative structures and expanded capabilities. In short, the institute has to deliver more than the expected value to the stakeholder and still keep on increasing the stakeholder value in more ways than one.

---

**About Dr. Jitendra Sharma**

Dr. Jitendra Sharma, Professor (Operations), IMT, Nagpur is a thorough academic professional with 29+ years of combined industry (5+ years), academics (24+ years) and administrative experience and a proven flair for teaching, research, case writing and academic administration. Prof Sharma is a committed individual, who has performed credibly in multifaceted aspects of a B-School - viz. teaching, research, case and administration. He possesses a myriad of of experience in academic administration in the field of branding, accreditation, equivalence, admissions, rankings and other core academic administrative activities and the highlight being the last few years as an academic and research leader at IMT, Nagpur.
Can 'Circular Water Economy' Uncover the Production-Consumption Dynamics?

The world can maximize chances of avoiding dangerous climate change by moving to a circular economy, thereby allowing societies to meet the goals of the Paris Agreement on Climate Action. The global economy is only 9% circular - just 9% of the 92.8 billion tones of minerals, fossil fuels, metals and biomass that enter the economy are re-used annually, a key finding of The Circularity Gap Report 2019, released by the organization Circle Economy.

Understanding Circular Economy

“A circular economy is a socio-economic system aimed at wise utilisation of resources. In a circular system, resource input and waste, emission and energy leakage are minimised through appropriate design, maintenance, repair, reuse, remanufacturing, refurbishing and recycling.” The idea of circular economy is aptly in line with Sustainable Development Goal 12 which talks about 'Responsible Production and Consumption'. Being Responsible is the need of the hour and to realise efficient Water Management system, Circular Water Economy should be the incorporated norm.

Water is a key socio-economic factor which integrates SDGs Agenda 2030 and Paris Peace Agreement in parallel. To augment the prospects of Circular Economy, we must renew the role of Water as an Engaged & Effective Catalyst. This can be done by way of harnessing water as scarce resource and leveraging water as a natural capital to as to decipher the true value of the asset i.e. water. Climate-sensitive strategies focusing on waste-to-resource conversion, Clean & Efficient energy, transformation of Grey-to-Green Infrastructure, Rain gardens or Rain water harvesting essentially revolve around circular economy.

Contrasting Circular with linear model, it can be said that ‘Linear model of Water economy has predominantly revolved around ‘Take-Make-Consum-Drop’ model. Relating it to the arena of water economy, it can be thought to consider water as a natural resource is continuously being Depleted rather than attempting to Replenish, Recharge, Restock and Recover (4R). Even our conventional wisdom allows us to consider water as a 'Usable Natural Resource' and not a 'Treasure' is a matter of concern which must be disposed off at the earliest. In a linear model, water is sourced from streams, rivers, lakes, reservoirs, oceans, and aquifers as well as harvested rainwater. Water is then used for consumption in fields of agriculture and industry. The consumed water is then returned to the basin directly or via municipal treatment facility to be used for consumptive use. This clearly
indicates a model of parochial and short sighted vision without any long term idea of sustainability or resource conservation.

**The Six Rs**

Moving away from linear model, it was later realized that waste production must undergo 3Rs i.e. 'Reduce, Reuse and Recycle' along a waste hierarchy. This was an improvement over linear model but did not enclose anything concrete & comprehensive. In contrast, Circular water economy envisages an efficient and efficacy based water cycle. This model brings forth an opportunity towards 6Rs i.e. 'Reduce, Reuse, Refuse, Recycle, Repair and Rethink'. The concept if appropriated with corresponding technologies is bound to reap the water utilization benefits, if the potential is properly tapped. It is also important to mention that infrastructure surrounding circular economy is cost-effective, long term and a resilient approach to manage water needs to a larger extent.

Currently, our on-field experiences working in the 'aspirational' districts of Uttar Pradesh and Uttarakhand by way of community engagement and stakeholder dialogue consultation has resulted in understanding the problems, challenges and future prospects which are noteworthy. Some of them to mention would include lack of proper access to potable drinking water, abysmal status of Basic infrastructure viz water, inappropriate funding patterns, uneven social access to water among community. After undertaking a bird's eye view of the success story, opportunities and problems of the district, it can be concluded that these districts portrayed a hidden potential of 'Sustained & Balanced Development' which remains untapped. Integrating these through web of 6 indicators i.e. Education, Heath & Nutrition, Basic Infrastructure, Agriculture, Water Resources, Skill Development & Financial Inclusion' with water at its core will help upscale the lives of the community for the better'.

**India's Visibility in Circular Water Economy**

With a mandated vision to meet the goals of Sustainable Development 2030 and Paris Agreement on Climate Change, India has strengthened its efforts to reduce carbon footprint and improve its water footprint by moving towards Green economy initiatives. In the field of water, initiatives like shifting to nature based energy options (solar/wind/bio-fuels), energy efficient sewage treatment plants, government actions like 'India Cooling Action Plan (ICAP)'or attempting to bring behavioral change through social movements of 'Swachh Bharath Abhiyan or Clean India-Green India'. To strengthen the prospective model of Circular Water Sustainability, enhanced focus interlinking the triad of “SDG Agenda 2030, Strategy for New India @ 75 and Prime Minister's vision of New India by 2022” keeping in mind 'water centricity'. Strategies have to be learnt to harness the natural environment and develop in the most resource efficient and regenerative way. By taking account of the local environmental conditions will enable better identification of prospects & opportunities and multiple interlinking benefits. The Circular Economy lens has a large potential to change the Demand-Supply proposition of an economy under consideration which is bound to change the dynamics of 'Production & Consumption' in long term as outlined in SDG Goal 12. Rather than acting on adhoc basis, we must begin with a new paradigm of moving towards 'Conscious & Collaborated' efforts envisaging water as a 'Valuable Resource'. Optimizing it rather than wasting, the utility of water as a valuable resource must be enhanced in our lifeline, which must definitely have a beginning from Today itself. 'Circular Economy' provides a hidden potential to garb the present opportunities in a very big way. The time is Ripe & Right to #SolveDifferent and collectively support #ClimateChange.

Dr Arvind Kumar is President, India Water Foundation.
The government along with the central and state agencies has extended remarkable support to the MSME sector through various landmark initiatives like MUDRA, PMEGP, CGTMSE resulting in credit growth recovery. The latest TransUnion CIBIL- SIDBI MSME Pulse Report shows that commercial credit growth recovery continues at 13.5% YOY growth in the Sep’18 quarter. The report further states that the total on-balance sheet credit exposure in India stood at ₹ 105.5 lakh crores as of Sep’18 of which MSME credit accounts for ₹ 24.7 lakh crores, including credit to MSME entities and credit to individuals for business purposes.

The study also shows a significant improvement in turn-around-time (TAT) on lending to MSMEs across credit institutions. TAT has continuously improved for MSME segment underwriting- from an average of 32 days in 2016 to under 26 days in 2018, while at the same time usage of credit information and digitization has increased. This finding signals a definite positive correlation between digitization and increase in efficiency of the commercial lending market. TAT is defined as the number of days between the date of enquiry and the date of loan sanctioned or renewal date. Findings reveal that NBFCs have demonstrated the lowest TAT on MSME lending at 18 days in 2018 from 24 days in 2016. While Public Sector Banks (PSBs) still have the longest TAT, they have demonstrated the maximum reduction in TAT for the MSME segment- from 41 days in 2016 to 31 days presently. Private bank TATs have also lowered from 32 days in 2016 to 29 days presently.

Data analytics and digitization have also helped drive access to credit for MSMEs as recent market-sizing analysis indicates that commercial credit information already accounts for a very material portion of all lending in the MSME space today. Insights from TransUnion CIBIL show that over 6.5 million businesses have taken loans from the banking sector for business. In addition over 15 million businesses have taken formal credit from the banking system in personal capacity.

Commercial credit growth recovery continues at 13.5% YOY growth in the Sep’18 quarter. The report further states that the total on-balance sheet credit exposure in India stood at ₹ 105.5 lakh crores as of Sep’18 of which MSME credit accounts for ₹ 24.7 lakh crores, including credit to MSME entities and credit to individuals for business purposes.
Data analytics and digitization have also helped drive access to credit for MSMEs as recent market-sizing analysis indicates that commercial credit information already accounts for a very material portion of all lending in the MSME space today. Insights from TransUnion CIBIL show that over 6.5 million businesses have taken loans from the banking sector for business. In addition over 15 million businesses have taken formal credit from the banking system in personal capacity. Focus credit clusters need to be created to improve credit flow in these states along with strong policy incentives for lending in these focus clusters. This will thus provide a significant push to the economic output and employment opportunities in these states.

While we have seen significant technological and data analytics intervention on the acquisition side reflected in usage of data and scores, such interventions are also necessary in portfolio management and early warning. Such early warning systems need to take periodic inputs from various sources including but not limited to credit data on the portfolio, cash flows of the borrowers reflected in account statements as well as GST filings, macro industry and economy level growth and profitability trends.

Strong policy incentives for geographical credit expansion and inclusion: A few states like Uttar Pradesh, Bihar, Odisha, Madhya Pradesh have a substantial base of MSME entities but have significantly lagged behind in terms of credit growth and penetration. Special incentives for lending in these focus credit clusters need to be.

**Enabling access of Alternate data on the MSME sector:** In order to improve and provide easy access to finance to the MSME sector, it is vital for the inclusion of alternate data to the financial institutions and credit information companies such as GST, Employees’ Provident Fund Organization (EPFO) and utility bill payment information. This shall provide critical underwriting as well as risk assessment inputs especially for the new to credit MSME borrowers and thus enhance overall risk assessment quality of MSMEs.

**Improving MSMEs access to “Trade Receivable Electronic Discounting System:** Access to finance to the MSME sector can be further improved in the form of credit opportunities by leveraging TReDS. In order to enable this regulatory approval is required for TReDS to access data from CICs and submission of trade finance data to credit information companies.

**Bolstering securitization of MSME segment exposure:** For securitization of MSME exposures with real time risk assessment by credit bureaus, regulators need to form enabling policies. MSMEs with live credit exposures are in excess of 6.5 million, with majority of them having exposures below 5 crores and are usually not rated by credit rating agencies. Utilizing credit information from CICs to assess the risk of the MSME portfolio for securitization will further improve the objectivity and transparency of the risk assessment process, thereby increasing its appeal to domestic and foreign institutional investments in the MSME bonds segment.

---

**About Harshala Chandorkar**

Harshala has been with TransUnion CIBIL since its inception in the year 2000. She is a member of the pioneering team that established credit information infrastructure in India. Prior to joining TransUnion CIBIL, she was working with HDFC for 4 years.

At TransUnion CIBIL, Harshala has driven the establishment of our country’s first direct-to-consumer service on credit information that enabled individual consumers to access their own credit reports directly from the bureau. She has also lead the implementation of the online authentication platform through which thousands of consumers are accessing their own CIBIL Score and Report instantly on its website. TransUnion CIBIL’s consumer relations platform also facilitates online dispute and grievance management for consumers. She has extensively contributed to the development of the credit information infrastructure in the country and is amongst few of the most trusted experts in this domain. The Reserve Bank of India’s committee, headed by Shri. Aditya Puri, for recommending data format for furnishing of Credit Information to Credit Information Companies also acknowledges Harshala’s contribution.

An ardent campaigner for driving financial literacy and consumer education on credit, she, as a veteran on credit information, contributes informative consumer education articles in media, addresses consumer queries through talk shows on television channels and chat sessions on web portals. She also conducts voluntary credit education workshops for corporate employees and industry associations. She is also a guest speaker at leading management colleges in India.

Harshala is a qualified Chartered Accountant and her financial background coupled with her experience and expertise in credit information domain has helped her gain a respectable position in the industry.
Historically, SMEs have had a tendency to hold back when faced with new and disruptive technologies. While it is easy for startups and large businesses with resources to make the most of new opportunities as they emerge, SMEs are usually slow to catch up. However, due to the hype generated, small businesses are made to consider AI as probably essential to their survival. Just as in the 80s, when there were exceptions and some businesses considered investment in computers for the future of business, SMEs who see value in such investment to maintain their edge and are able to afford it, should go ahead and evaluate their investment decision based on their business objective. AI related technologies would take some more time to mature and in due course of time when AI tools become more accessible with lowering of costs and better defined business use cases, small businesses would be in a position to make use of these tools and implement them with ease.

When it comes to AI, hesitation is a gigantic mistake. This technology is incredibly accessible, with huge benefits for businesses, which is one of the reasons why SMEs should jump at the opportunity to enjoy these advantages. In the race for automation, companies that are quick to embrace change and ready to pivot will be the winners.

"One of the biggest benefits of AI is that it helps to optimize or make a process more efficient," says IBM India/South Asia, Cloud Leader, Amit Kumar. AI-based solutions can help companies vastly reduce operational inefficiencies and small and medium businesses can use these solutions to improve on their processes. "There are several processes which are time-consuming, several pain points like cash flow, which needs to be sorted out, errors that can be reduced. The question is whether AI engines can help in addressing these and the answer is 'Yes'," asserts Kumar.

**AI-based Competitive Advantage**

Insisting that it is not a train which is getting away, Kumar says the SMEs need to decide for themselves if they are at a stage in their businesses where they need a competitive advantage.

The reason that this is the right time for SMEs to start exploring AI is because industry has developed enough to offer AI-based solutions to their clients. "These solutions are only going to get better over a period of time as the technology advances," says Kumar.

“We have to re-imagine the process. We are working with many of our clients to develop AI-based solutions. Clients are already asking questions like: Can you automate this process? Can you make it faster? SMEs are
All of them seem to join one of two groups: pessimistic skeptics, who see AI ushering us into a full-blown dystopia, or those who see it as a liberating, game-changing technology.

It is almost a banality that AI will transform our economies - and likewise our lives. The question seems to be more about how fast and to what extent the massive disruptions will occur. In an extensive report Price Waterhouse Cooper (PwC) terms AI as “the most significant general purpose technology of our era”.

As we contemplate about the potentials of AI, some warn of the devastating impact these new technologies may have on existing employment patterns. Others voice ethical concerns when humans enable machines to replace humans.

At first sight, you may be tempted to classify small and medium-size enterprises (SMEs) as AI skeptics, but is their stance really valid? There are at least two common sense reasons for this sort of attitude.

First of all, SMEs have been less enthusiastic about new technologies. If they rush with the adoption of AI and it eventually proves to fall short of their expectations, they can hardly make up for the time, resources and know-how invested. Unlike larger business entities, which can absorb this shock better based on the scalability of their available resources, SMEs have nothing to fall on if such a capital investment fails.

AI Can Enhance SMEs

The first thing you can do for your employees is to leverage AI’s capacity to process huge amounts of information in a blink of an eye. This information can include anything from paperwork, files and meeting minutes to literal mountains of emails, archived messages and memos.

By cutting down on time employees spend chasing documents in search of the right information, AI will help any SME get more comprehensive insights into any process and, consequently, arrive at better-informed business decisions.

AI can help SMEs reap the benefits of increasingly faster technological revolution, in the area of customer service, which faces increasingly demanding customers who want it to be personalized, flawless and readily available 24/7. AI allows SMEs to integrate customer services at little cost. It can use its lightning speed data processing capacity to analyze all available information on any customer and automate answers based on this, thus reducing the
burden on the staff in charge. In the long run, it may ultimately allow these companies to cut down on operational costs, based on its ability to sort out messages and tickets and forward them to the right departments that can deal with them – for e.g., human resources or IT. In this manner, the needed number of human staff members can be reduced without hurting the level of service offered to clients in the slightest.

**AI Tools for SMEs**

To start using it, SMEs can use AI tools that are available 'off the shelf' and embedded as part of the solutions that SMEs could procure. For example, advertising and marketing solutions provided by Facebook and Google are universally applicable—be they large or small businesses. Particularly for SMEs with limited budgets at their disposal, this could be effectively utilized to target the desired customers with precision messaging and aim at better conversions with the help of AI enabled solutions provided.

Data security and protection from frauds have also become areas of necessity and SMEs can benefit by leveraging AI applications using vendor companies. While currently some of the challenges faced by SMEs, could be to get the access to required datasets, the ability to construct data lakes and the skills required to build algorithms. In the near future, we might have AI based systems leveraging the data related to a combination of small and large clients developing recommendation systems. This would enable SMEs to skip the phase of building their own AI systems around their own databases and leverage the readily available off the shelf AI systems trained on multiple databases. Thus, in due course of time, with the help of ongoing research, ready-to-use AI platforms or tools for various functions would definitely be available for businesses to adopt and integrate with their business transactions. In preparation for this, focus on seizing and building a robust data infrastructure is essential. For AI tools to deliver results, businesses should start planning for proper classification of data in which AI systems can be trained and therefore SMEs would benefit, by paying adequate attention to treating data as an important resource right away.

About Dr. Saleena Khan

Dr. Saleena Khan is an Associate Professor, Institute of Management Technology, Nagpur. She teaches core courses like Organizational Behavior and group dynamics along with a few elective courses in Human Resource Management. She is also the Chairperson, Brand Promotions at IMT-Nagpur. She can be reached at skhan@imtnag.ac.in

SMEs can use AI tools that are available 'off the shelf' and embedded as part of the solutions that SMEs could procure. For example, advertising and marketing solutions provided by Facebook and Google are universally applicable—be they large or small businesses.
Although India was the birthplace of magic, it has been greatly neglected in the country. In India when one thinks of magic one only thinks of 'kabutar magicians or birthday party magicians'. And consider magic to be down market.

The magic community as a whole has a crab mentality. Most magicians are only interested in self-promotion and are rarely trying to better the industry and are definitely not happy to see their colleagues succeed. Plagiarism is rampant and most magicians copy other famous magicians verbatim.

Fees are low and as such props are of an inferior quality which leads to the show being of a poor quality so people only pay them low fees. This is a vicious cycle that most magicians get stuck in and have no way out. Often they feel that even if the improve the quality of their show the fees will be the same as India is very price sensitive so they don't bother.

However, Urban Shaman is changing all this. All our artist offer the type of quality that one would see in Las Vegas. We are working to make the magic community work together as one. We conduct workshops and training programs to improve Magicians quality. We help our magicians get visibility through our marketing strengths and negotiate fees on their behalf. We also constantly work with our magicians to keep upgrading their show.

**Magic and Business Development:**

Magic is a great ice breaker and conversation starter. There is a form of magic called Trade Show Magic. This is used at Trade Shows to attract more customers to a stall. Catch phrases and product benefits may be included into the performance.

Magic, Illusion and Mentalism shows attract a good set of HNI clientele as audience. Real estate, automobile, BFSI and other luxury segments, sponsor such shows so that they can meet their potential customers. They use these as either lead generation or for direct customer engagement.

**Magic allows for great brand affinity and recall value.**

**How Magic makes brands succeed**

Magic is a great communications tool. It has been used extensively in the media and entertainment industry for years now. Through Magic we can make items and products appear, disappear, teleport, etc. Brand integration and product placement is very easily possible in an easy organic manner.

A brand has many possibilities to choose from. We have many existing content IP's which are already rolled out or in the process of being rolled out. These include theatre shows, live events, tv shows, large scale stunts, digital content, etc.

We can also create specific branded content. The content is family friendly and does not include any vulgarity or foul language. So it can easily reach a larger audience. Also the brand association is very positive.

**Urban Shaman's success story**

Founders Janvion and Ian were friends for many years. Janvion is a Producer by profession. His forte was large scale, big budget productions. This included film, advertising, events, theatre shows, etc. In 2015, he was keen to lookout for something different, something exciting and unique to work on.

Ian is a Magician by profession. He started learning and performing arts over 13 years ago. At that time, There was not he joined the cruise line and began working on board as a full time magician. In 2015, he was back in Mumbai on vacation and wanted to explore Magic in India.

**The Team**

Every person that is a part of our organization is a high value asset. They are all extremely self-motivated and internally driven. Each and every one brings with them a diverse and unique skill set. They each have their own independent business goals and usually exceed these goals. As an organization our staff get complete freedom of operation as we believe in 0 micro management. We have an ecosystem of complete transparency and trust which works both ways. Our hierarchy is flat and we avoid titles. The con is that we have 0 tolerance for dishonesty and 0 learning curve. So high performers excel in this environment and are subsequently rewarded and low productive time servers are weeded out immediately.

Since then we have worked on many mega events like Isha Ambani's Wedding and Porsche Cayenne Launch in Mumbai where we made the car appear on the stage and amaze the audience. We hope our success story has just started.
Stunting Development

India's Rising Culture of Charities and Reliefs

Subsidies, interest-free loans, free electricity, and waiver of loans indicate our concern for the poor (labor, farmers and youth). But a gratis handout is a gratis handout and can only be a short-term measure like a first aid after which they should be pulled out of their somber existence.

Reliefs and reservations belittle human self-esteem and violate our basic objectives of liberty, dignity, economic and social equality. It is strictly incumbent upon the State to create conditions and avenues (development of the nation) rather than consistently resorting to charities and dole-outs that are conspicuous compulsions of perennial under-development and a testimony of fumbling governances.

Despite enormous and ever-rising quotas and reservations (in jobs and education), various kinds of economic and social reliefs in forms of NREGA, mid-day meals, farmers’ loan waivers, RojgarYojnas, subsidies on loans, electricity and ridiculously low prices for food items like wheat and rice, food security bills and other dole-outs to alleviate poverty, the plight of the impoverished refuses to improve.

**Short-term Solutions**
Reliefs and dole-outs cannot be long-term solutions. Continuation of such kindness is injustice to the rest of the people as it acts as an impediment in the development of the nation and progress of the people. It is also tantamount to destroying our resources. Revenues earned by the government are consumed on dole-outs without tangible development, besides causing budget deficits, rising debts and inflation, further oppressing the common man.

Consequently the sorry state of affairs of the nation persists and the plight of the suffering masses never improves. Not by charity, not by dole-outs which are human rights violations and abuse of Part III and IV of the Constitution; our people must be able, at the very least, to feed themselves naturally and with dignity.

Permanent reliefs may be essential for those who are disabled or helpless to earn their living and need to be rehabilitated on a long-term basis. To a healthy man alms bring shame and belittle his self-esteem. During droughts or floods which bring calamity to our rural people, such subsidies certainly provide them the required relief. But if such occurrences are of a perennial nature, as they are in India, then not relief, rather an investigation is imperative to find a permanent solution to the perennial predicament.

**Economic Slavery**
All this is suggestive of the fact that our governments (Legislature and Executive) are not able to address the maladies ailing the nation in real terms. There is lack of creation of opportunities and avenues to earn a living in a natural and dignified way.
These relief measures are indicative of economic slavery and lack of liberty, and are tantamount to gross human rights violations (HRVs).

It also implies lack of checks and balances on our Legislature and Executive to ensure prudent implementation of the Constitution. Our Constitution does not permit the Legislature and Executive to resort to such lax and regressive practices for an indefinite period, which disregard Parts III and IV both inalienable provisions of the Constitution.

All this calls for development on a long-term basis rather than reliefs or subsidies that are short-term. But our governments consider it enough to provide reliefs which they mistake as cure. One can easily comprehend that if there is no development, where the relief money shall come from, and for how long? After all the printing of excess currency has a limit and so also living on public borrowings and foreign aids. Moreover there is a limit to the endurance of our mother earth to our consuming the resources without creating them. Beware our learned guardians! Lest in pursuit of providing crutches to the impoverished, in absence of development, we may not ourselves sink into a marsh and cry for help!

By 2014-15, our quest for more FDI’s, FII’s, foreign loans and technologies through ‘make in India’ philosophy are indicative of it”.

**Regressive Economy**

This unproductive and unmindful extravagance has not only set in a regressive economy, it has also inflicted colossal inflation which the common man must bear the brunt. The uncontrolled rise in domestic prices also makes our exports dearer and uncompetitive in the global market. It permits countries like China to dump their much cheaper goods in the Indian market causing further deterrence to the home industry, exports, and handicrafts.

### About K. C. Agrawal

K.C. Agrawal is an eminent author with various books to his credit. A staunch nationalist he is an electrical engineer by profession from BHU now known as IIT Banaras. He is also an honoured senior member of IEEE, USA. A rich experience of 33 years in various domains including academics, PSUs and multinationals, and then running his own successful industries for 24 years manufacturing switchgears.

Decades back during his various official sojourns in Europe and America he gained an insight into the economic standards and social ecosystem prevailing in those countries. At the same time, he was immensely affected by the poor standard of living and the state of affairs in India. The extremely woeful conditions and the visual modality of poverty-stricken people in India changed his perspective in life. Concerned with these vicious terms, he decided to liquidate his thriving business to take full time to “liberate our country from poverty, literacy and backwardness.” In his works, he has always tried to explain about what has doomed the nation and what can be done to overcome it. All his work is focused towards the common man of India. Owing to the distressful state of affairs he pledged to do his bit for his motherland and the teeming millions. He has now taken to a dedicated mission to help implement the forgotten constitution with a focus on prospering together as a whole country.
Do Patents Create Monopoly?

Patents provide multiple advantages. They offer an incentive to innovate, help in dissemination of knowledge, technology transfer and commercialising an invention. However, these gains result in certain welfare loss to the society as well under certain circumstances. It may result in the creation of a statutory monopoly like situation. In this article, Dr. Shyam Dr. Sreekumaran Nair examines the circumstances when awarding of patents do result in monopoly like situation. We also look into whether such a development is always detrimental to the society.

Patents do not always create monopoly in the strictest form defined in economic analysis. When a patent is awarded, the patent, like any other property rights, will provide the patentee some special rights and privileges. The patent rights entitle the patentee with monopoly power only if the invention does not have close substitutes. We will look into this situation by taking specific example.

Let us take an example of market for roses. In the market, there are hundreds of patented rose varieties and many hundreds will be added in the future. The patent for a rose variety only provides the inventor, protection against unauthorised exploitation of that particular rose variety, but not any monopoly in the market. The patent for rose variety can be replaced by the patent for bottle openers, rat traps etc and we can find that none of the mentioned markets are monopolies. But, in the case of certain industries like pharmaceuticals, awarding of property rights for certain inventions or technologies may result in the evolution of a market structure which closely resembles a natural monopoly. Patent protection because of its statutory nature can block the rival’s entry into the market by blocking all the efficient or cheapest methods of product development and manufacturing. Thus creation of statutory barrier makes rivals operations in the market unviable.

Evergreening of patents

The degree of monopoly power enjoyed by a patent would depend on the two conditions. First, the interpretation of the criteria of originality and utility, how stringently should these terms be interpreted? The Supreme Court of India faced this dilemma during the interpretation of Section 3 (d) of the Indian Patent Act while reviewing the patent renewal application of Glivec, the cancer drug manufactured by the Swiss Pharma giant, Novartis in April 2013. The Supreme Court gave the verdict that the ‘evergreening’ of patents cannot be considered as satisfying the novelty clause for awarding a patent. “Evergreening” refers to process of passing of any patented drug that is about to expire as a new drug by either presenting new uses or making modifications to the existing drug by changing molecules that do not differ significantly in properties with regard to efficacy.

Second, on the stringency in defining the breadth of the patent. The breadth of a patent is defined by Scherer in the American Economic Review article in 1972 “as the range of products that are encompassed by the claims of the patent and therefore protects the patent holder against potential imitators”. The breadth of a patent is directly proportional to the specificity of the claims awarded to a patent by the patent office. In fact,
the arguments and counter-arguments between the inventor and the patent office in determining the specificity of the claims are one of the sources of potential delays in patent grant. The classic case of the Wright brothers highlights the importance of patent breadth in determining the degree of monopoly power enjoyed by the patentee. The classic question to be considered was regarding whether the Wright brothers be granted a broad patent covering all powered flight, or only a narrow patent on powered flight using wings warped by wires for control purposes. The Wright brothers were eventually awarded a narrow patent only. This decision thereby paved the way for competition and the aviation industry thrived and prospered. However, there are exceptions to this rule in certain industries.

Reduced Future Innovation

Let us consider the pharmaceutical industry. The social welfare created as a result of awarding patents to life saving drugs is mixed. The success of a life saving drug depends on the extent of outreach and affordability. Most of the life saving drugs are heavily patented and are unaffordable to a good percentage of the population who are in need of the drug. In such a situation, generic drugs do maximize welfare of the society. However, Hughes, Moore, and Snyder in their 2002 working paper entitled ‘Napsterizing Pharmaceuticals: Access, Innovation and Consumer Welfare’ have shown that for every dollar that a consumer gains by purchasing a generic drug today, the loss of future welfare will be at a rate of three dollars in present value terms from reduced future innovation. A Forbes article by Herper in 2017 states that the cost of bringing a drug from the ‘invention to pharmacy shelves’ is $2.7 billion. In other words, since the cost of developing a drug is very high, pharmaceutical companies would require a near monopoly situation to make money out of their huge R&D expenditure. Failure to do so may result in less R&D expenditure in the future by the pharmaceutical companies thus resulting in a no-win situation if handled poorly.

Dr. Shyam Sreekumaran Nair is a faculty at IMT Nagpur in the area of General Management. His research interests include Intellectual Property, Technology Strategy and Science Policy.

Inkers deploys AI Powered Solutions for Hynetic Street Lights, reduces Power consumption by 50%

Inkers, an AI Startup adds another successful deployment, with Artificial Intelligence (AI) powered solution, for Hynetic Smart Street Lights. The system integrated solution into the Hynetic Products is an AI Powered Highway Lighting system that works real time. The intersection of IoT and AI, combined with distributed computing frameworks allows for a feature-rich implementation of the technology that is highly optimized for safety while ensuring significant energy savings.

The integrated management platform can access and monitor key data from the street lights out in the field, providing necessary insights about the light’s environment. The system on real-time basis classifies moving objects like humans, vehicles, animals, or no-object, and adjusts the intensity of the light either by increasing or decreasing it to optimise the energy usage. In a nutshell, the Lighting automatically dials down the brightness when no one is around and restores radiance upon detecting the presence of oncoming activity. With the smart Lighting, the Overall savings run into 50-60% of total electricity consumption, which runs into crores. Speaking on the collaboration, Manish Giri, Co-Founder, Inkers Technology said, “Inkers Technology is excited about the use of its NextGen Edge Computing Device running Vision AI solutions. This enables us for unprecedented technology integration with varied use cases like smart campuses, smart lights, Facial Recognition to name a few. We hope to enable Hynetic with our technology to address growing need globally for an intelligent energy management solution. We are also looking, to explore further avenues to use the unique technology in the fields of Retail and security going forward”

Shashank Donthi– Principal Architect, Technology Development, Hynetic says, “Having invested heavily in the design and development of an indigenous IoT platform for smart street light solutions, Hynetic is excited to take the technology a notch further. This collaboration allows for Hynetic and Inkers to explore new avenues that are ripe for adopting AI, and also helps put Indian technology on the global playing field. The biggest challenge for adoption of new technologies is the high cost of development and execution. By leveraging on each other’s expertise, the collaborative growth models helps bring costs down and reduce time to market of next gen tech”
To put things in perspective, let’s take a small example. A worker’s self-belief can greatly be affected by the volume of desk space available to them. A reduction in surface area of the desk may reduce their flexibility at work. This can also be perceived by them as worsening of their work conditions and consequently the value attached to them by their organisation. While the impact of such tangible changes on an organisation’s performance can be difficult to measure, its impact on employee’s satisfaction is considerably easier to evaluate. That’s why design strategies come into play.

This is just one aspect of physical workplace environment. There are more specific factors like lighting and temperature that can have a major influence on employees’ engagement with respect to their working comfort, ability to see outside, experience Nature in some form or receive natural light.

Workspace design interventions

In most of the scenarios, the answer lies within the organisation itself. Thoughtful changes in physical working area contributing to attributes such as privacy, flow of light and air, comfort, acoustics and layout can connect directly to performance drivers viz. employee engagement, satisfaction and loyalty. Talk about getting ROI through interior design processes!

Despite sounding achievable, this can be a tough nut to crack. Fortunately, design solutions exclusively based on human behaviour and the science behind it are available to make the process more seamless and spot on.

These proprietary techniques based on organisational psychology and underpinned by design modulations offer a greater degree of compatibility between employees and their workspaces. Consider the following recommendations that form a piece out of their entire gamut of offering.

Sensory Rejuvenation

In the absence of visual simulation during the day, workers’ alertness can take a toll. Access to daylight, window views to outdoors, change in lighting levels, use of highlights and
slight visual complexity can help overcome this.

**Mindful Comfort**

The right mix of temperature, airflow and humidity along with adjustable furniture foster move-up-and-move-about approach in workers, thus aiding their overall health & well-being.

**Engagement sans Borders**

Spaces created to help people connect with others one-on-one and eye-to-eye, and not just through technological devices. Low height partition, linear seating arrangement and open floor plans fit the bill.

It is wise to consider that there’s significant positive relationship between the operational physical dimensions of work and measures of employees’ performance. And hence in pursuit of corporate glory, it’s essential to have engaged employees who feel and connect physically, cognitively and emotionally to work roles and the work environment.

So the next time you plan to do a refresher session with your employees, maybe you should start with opening the windows first.

Literally!

---

**About S. M. Saad**

S. M Saad, Proprietor, Green & Cobalta, has expertise in Design Strategies, Commercial Interior, Turnkey Contracting & Project Management, Project Consultancy and Architectural Design.

Saad has done MBA in Interior designer and has more than 20 years of experience in advertising & marketing. He has a major contribution towards reputed brands across FMCG, Retail & Pharma and has a knack for devising innovative interior designs, and acumen to execute it. He is known as a modern alchemist who's redefining the medley of form and function. Technically sound for projects that require special skills to get maximum returns from investment, e.g. mid to large commercial spaces, branded outlets, retail chains, hospitality, etc.

---

**Gozero Mobility (UK) Enters Indian E- Vehicle Space**

GoZero Mobility- a British Electric Bike makers which manufactures premium electric performance bikes and signature lifestyle merchandise today announced its entry to India market. After one year of design & technology development in Birmingham, United Kingdom, GoZero Mobility has decided to embark upon its product journey through India which is one of the largest 2 wheeler & bicycle market in the world.

To begin with GoZero Mobility has launched two of its flagship products “One” and “Mile” performance e-bikes in New Delhi which will be rolled out in rest of India in phased manner.

Designed to shock the industry, GoZero One is powered with 400Wh lithium battery pack which is optimized to provide 60 Kms of range on single charge & GoZero Mile is powered with 300Wh lithium battery pack which provides 45 kms range. Both are specialized performance e-bikes providing optimum stability and comfort and come with multi-modes of operation giving users freedom to choose the way of riding – Throttle, Peddle Assist, Cruise Mode, Walk Mode and Manual Peddle.

GoZero Mobility has partnered up with Kirti Solar a company based in Kolkata, for the development and manufacturing of current & future products, utilizing the global supply chain to “Make in India”.

As a part of the association, Kirti Solar has invested USD 250,000 in GoZero Mobility. Manufacturing is going to take place from Kolkata, West Bengal with an initial capacity of 20,000 units per annum.

The partnership is for the global market & aimed to make India as an export hub for global sales of GoZero E-Bikes.

Commenting on its India entry and plans for this market, GoZero Mobility CEO, Ankit Kumar said “With the significant focus by the Government of India towards Electric Mobility especially 2-wheelers, we see this as an appropriate time for us to be here. E-bikes globally is playing a major role allowing the user to commute faster and contribute towards curbing pollution & reducing traffic congestion. In last few weeks, we have seen the worst of AQI in cities like New Delhi, this is an alarming situation and requires immediate attention. We see E-bikes to play a major role in transforming the way we commute in India. GoZero Mobility is determined to offer products with optimum performance and create a green-way to commute.”
There are some points about solar PV technology that instantly endear us to the idea. Most of us have been dependent on supply of grid power throughout our life. About 5-10 years back daily power failure in a place like Mumbai was the norm. Every home had an inverter especially considering the oppressive heat in the city. I remember seeing a lot of ads with Sachin Tendulkar and Navjot Sidhu peddling inverters as the panacea for all the ills related to power.

Solar power has grown from a meagre 3.7 GW in 2015 to an impressive 25.2 GW in 2018. A lot of capacity has got added in the areas of conventional thermal power as well. India's thermal power capacity grew to 222.9 GW in 2018, 88% of which came from coal while the rest came from diesel and gas.

With a total installed capacity of 349.3 GW of power in India, in 2018, India was declared as a power surplus country. I always say that if it sounds too good to be true, it probably is. If we were to scratch the surface of the power surplus argument, we would get a deeper understanding of the issue. There are precisely 2 mistakes that we are making while claiming surplus power.

This is like saying that if I miss my aim by 1 foot to the right once and 1 foot to the left next, on an average I am an ace shooter. In the power sector, the biggest problem is of the reach. Many people do not get any power due to the absence of a grid everywhere.

Not necessarily. I could very easily mean that we are consuming less than we ought to, if we are to be a truly fast-growing economy. Here are some numbers. The average per capita consumption of electricity in India is 1122 kWh/year. This ranks at 143 out of 219 countries on the list, which is quite astounding for one the worlds largest growing economies. In fact, we are just above Iraq which comes in at 144. Even if we are to ignore exceptions like Iceland (50613 kWh/capita/annum) due to cold weather, we should be looking at countries like Taiwan which is consuming 10,632 kWh.

**The Bogey of Surplus Electricity**

In a nutshell, with the burgeoning middle class and rising aspirations, the power consumption is going only one way i.e. steeply upwards. So let us not kid ourselves to believe the surplus electricity bogey. So, when solar power started gaining prominence about 4 - 5 years ago, a lot of investment came in form of massive solar farms with states like Gujarat, Rajasthan, Maharashtra, Karnataka, Tamil Nadu and Madhya Pradesh leading the way. These were essentially the companies with deep pockets in the form of either MNCs or large Indian business houses. This exponential growth and capacity addition came at a cost. As any economist would tell you, subsidy as a temporary measure is fine. But it is definitely not sustainable in the long run as an ongoing business model.

The aggressive bidding in the solar
power sector led to prices at which they were selling to be driven down to levels of Rs 2.60/- and lower. The cost of generation is probably above Rs.3/-. So in no time all the subsidy benefits were frittered away by the producers. This has led to the investment in the solar farm segment coming down to a trickle.

Democratizing Power

Around late 2017, with increased awareness of solar and renewable energy, the momentum started to pick up in the rooftop segment. This is where the consumer and the EPC company both saw a lot of value. The consumer was seeing benefits as compared to his existing power purchase price (Rs.8/- to 18/-) while the EPC company was able to show value to the consumer and also keep a reasonable margin for himself.

This was a huge step in the direction of democratizing power. Consumers have started taking control of the production of the power they need. However, there are still speed bumps in the form of complicated and long processes for permission from the power distributor (in case of net metering). These were mostly a result of ignorance on the part of the power companies rather than reluctance. With increasing awareness, the necessity of speed money to move things along has started going up.

The real challenge to the growth of the grid tied power sector comes from the red tape. This has been frustrating consumers and EPC companies alike and continues to be a speed bump.

Achieving True Democracy

A true democracy would mean that an individual is in a position to produce all the power that is required for his home. He doesn't have to depend on the power distributor for his requirement. This is a concept that would be impossible to implement in large cities and towns primarily due to the lack of space. However, this has the potential to be a reality in the rural areas.

A large part of achieving true democracy depends on battery technology and community aggregation. Larger storage capacity and lowering costs of batteries are a critical element of off-grid solutions. We may have these technologies coming into the solar space primarily due to the development of the electric vehicles sector. On the other hand, there has been a conscious effort in the rural sector by the residents to create micro-grids with shared costs and shared benefits creating economies of scale.

As an EPC company, you would need to reinvent your business models and ways of thinking to move away from 'project thinking' to 'product thinking’. Productizing your offerings and thinking about how you can get it across to your customers in the shortest time possible and provide maximum value would be the key.

The 4P’s of marketing is a concept that doesn’t come easily to EPC companies. But that will be your new reality either to adapt or to perish.

Arun Rao is Director (Marketing), Magenta Power Pvt. Ltd. In his 24 years long career he has held leadership roles in several organizations like BASF India Ltd., GTL Ltd. and Firstsource Ltd. His one mantra in life is to leave this earth behind in a better shape than he inherited it.
NETGEAR

Tips to Help Businesses Combat Bad Wi-Fi

The development of never-ending wireless internet connections has made business accessible throughout the world. Hence the demand for Wi-Fi has risen exponentially overtime. According to an agency report, it is projected that the country will achieve double-digit growth for 2019 and estimates that the number of internet users will reach 627 million by the end of this year.

India is now adding close to 10 million daily active internet users every month, the highest rate of addition to the internet community anywhere in the world. A significant portion of these users are business owners who have learned the power of connecting with customers and colleagues digitally.

A wireless network is the key component to any small and midsized businesses. They speed up significant regular jobs which include sending email from a mobile phone, offering customer help while employees are away from their counter, and maintain track of shipments and record from the stockroom floor. The present digital age looks to improve work processes; Wi-Fi is turning better on a regular basis.

Bye Bye to Bad wi fi

As a small business owner, these are likely to be an issue that you identify with, which means you could also be unaware of a solution that could mean saying “bye bye” to their bad Wi-Fi; namely mesh technology. A mesh Wi-Fi system, such as the NETGEAR Orbi Pro, uses a router and one or more satellites to extend high-speed Wi-Fi coverage to the far reaches of your office.

The Orbi Pro router and Orbi satellite transfer data to one another via a dedicated high-throughput wireless backhaul using patented Fastlane3 technology, creating a Wi-Fi blanket that covers up to 10,000 square feet with high-performance AC3000 (3Gbps) Wi-Fi. Employees and customers simply connect to the Orbi Pro router or Orbi satellite that offers the strongest signal; this is seamless and all happens automatically, ensuring everyone has fast, reliable access, no matter where in the office they are working.

Whether it’s for staff or for customers, the business importance of reliable, high-performance Wi-Fi is clear. So, if you’re one of the businesses that need to combat bad Wi-Fi, a NETGEAR Orbi Pro mesh Wi-Fi system could be the solution you’re looking for.

Here are the top 5 tips for better business Wi-Fi.

Find and eradicate Wi-Fi dead spots:

It's likely that some locations in your office or business premises will have a weaker Wi-Fi signal than others, and possibly some areas may have no signal at all (a dead spot). A full Wi-Fi site-survey will reveal these problem spots, but small businesses can also use tools such as the NETGEAR WiFi Analytics app to locate areas with poor signal strength or crowded Wi-Fi channels. You can...
use this data to place a Wi-Fi mesh extender or NETGEAR Orbi Pro mesh Wi-Fi System, to extend signals to all areas of your office.

**Place your router optimally:**
As hinted above, the placement of your Wi-Fi router can dramatically affect the strength of the coverage in different areas of the business, so the location of your router and satellites needs careful consideration. Avoid corners and windows, which will mean a large percentage of the signal is absorbed or beamed out into open space, and avoid placement inside cupboards, especially metal cupboards, as this will seriously reduce signal strength. Instead aim for a central placement or ceiling location, so that the signal is not obstructed or wasted in areas where your workers are not located. You can even strategically place an Orbi Satellite to provide coverage to a customer area to ensure a good signal.

**Create multiple Wi-Fi networks:**
Network admins, employees and customers all need different levels of access, so separate your Wi-Fi networks into admin (owner), and employee and guest networks. Even better, create a guest portal to offer customers free Wi-Fi internet, without allowing them access to the rest of your network. This also provides marketing opportunities, such as immediately re-directing customers to webpages with deals or offers.

**Ensure your router is secure:**
Regularly check and update your router's firmware to ensure your device is protected against recent vulnerabilities that could threaten your network's security. Also, ensure your Wi-Fi networks use the stronger WPA or WPA2 security protocols and avoid the more easily hackable WEP standard.

**Use the latest Wi-Fi technologies:**
Congestion and interference can be a major problem if all of your employees connect to a 2.4GHz Wi-Fi network. This is especially the case if neighboring businesses are also using 2.4GHz networks, which may be operating on channels that overlap with the one used by your router. Upgrading to 802.11ac or better Wi-Fi, and ensuring features such as MU-MIMO and Beam forming are enabled on your router will lead to faster speeds and less congestion. Another benefit is that if all your staff can use the 5GHz band then you can dedicate the more widely compatible 2.4GHz network solely for customer Wi-Fi, helping to ensure an optimal experience.

---

**About NETGEAR, Inc.**
NETGEAR is a global networking company that delivers innovative products to consumers, businesses and service providers. The Company’s products are built on a variety of proven technologies such as wireless (WiFi and LTE), Ethernet and powerline, with a focus on reliability and ease-of-use. The product line consists of wired and wireless devices that enable networking, broadband access and network connectivity. These products are available in multiple configurations to address the needs of the end-users in each geographic region in which the Company’s products are sold. NETGEAR products are sold in approximately 30,000 retail locations around the globe, and through approximately 25,000 value-added resellers, as well as multiple major cable, mobile and wireline service providers around the world. The company’s headquarters are in San Jose, Calif., with additional offices in approximately 25 countries. More information is available from the NETGEAR investor page or by calling (408) 907-8000. Connect with NETGEAR on Twitter, Facebook and our blog.

-Aroon Sharma

---
Conceptualized as an electronic and mobile accessories company in 2014, PTron started designing & manufacturing mobile accessories through contract manufacturers in China offering a bouquet of mobile accessories products like Bluetooth headsets, portable Bluetooth speakers, wired/wireless earphones to chargers and cables, smart watches, networking products etc.

The organization has delivered over 5 million products over multiple online platforms as well as offline distribution and retail channels in India. After establishing a strong and wide consumer base online successfully, PTron entered the offline market in India. It now has 40+ distributors covering 15 states in India. Based on SKUs and number of units sold PTron has emerged as the largest Indian mobile accessories company. It now competes with established large multinational brands in India. Moving to the next level, PTron has now expanded its business in the global markets and has set up distribution channels in countries like USA, Hong Kong, Israel, Indonesia etc.

SME WORLD in an email interaction with Ameen Khwaja, Founder & CEO, PTron.

How big is the mobile accessory market in India?

The number of smartphone owners in India has been increasing exponentially, so are the mobile accessories bought along. Currently, the Indian mobile accessories market size is between INR 12,000 - 14,000 crores. According to industry reports, by the end of 2026, the same market in India is anticipated to reach a value of INR 24,500 crores (US $3,545 million), registering expansion at a stellar CAGR of 10.4%. With every user buying at least 2 accessories per device, we see a positive growth over the next few years. Also, the potential of replaced mobile accessories’ market in India is huge with most people seeking reliable replacements for accessories that came with their phone and do not prefer to pay a huge premium for “brand value” alone (As majority Indian customers are price-sensitive).

What is the demand and supply scenario?

In terms of value, 5% to 15% of the mobile accessories market is owned by category A (premium) brands catering between the price segment from INR 3,000 to 10,000 (taking earphones as an example). The major chunk of 50% belongs to accessories sold in grey market which are not reliable or fulfilled by warranty. There is an unaddressed...
gap in the offline and online market for products that are Branded & functional, perceived as value for money with warranty between the price range 900/- to 1200/-. PTronis aiming to capture this remaining market segment which is potentially the largest by volume and value.

There is a huge competition in mobile accessory market, especially from overseas manufacturers. **How do you cope up with the competition from imported products?**

As far as manufacturing, sourcing and R&D is considered, we have our team in China which takes care of all these. In addition, we have in-house design capabilities ensuring unique designs for each product. While most other brands buy generic public moulds, we design and make our own private moulds, thereby, offering authentic products. Additionally, we are not just importers; we place BOM (Bill of Material) level orders. We specify and even source the components for assembling at the manufacturer partner. This is similar to what world-renowned mobile manufacturers do. We are also exploring options of setting up manufacturing or assembly units in India under “Make in India”.

**What are the strengths of PTron?**

As we manufacture our own products, we have an extensive control over its cost and quality. This implies having strong relations with cost efficient & reliable manufacturing partners. While developing product design competence, we have filed 3 patents already. Thereby, we can vouch for the originality and distinctiveness of our products. Also, we have a strict quality control procedure in place, through which all our products go through 5 levels of quality check to ensure that a consumer does not face any issue with our products. In addition, PTron offers 6 months replacement warranty on all the products.

Our biggest strength is that all our products are certified by FCC (US), CE (Europe), BIS (India) & Bluetooth (by BQB labs). Very few Indian brands have these.

**Today in the age of fast changing technology, innovation and quality remain the by-words; what kind of efforts PTron puts in to achieve innovative quality?**

PTron is an innovation driven brand and providing quality products to the consumers is of utmost importance to us. Our R&D is driven by consumer delight. We are constantly working on two things- How do we get the best version of the product and what products do the consumers really want or would love to buy? The result is there for everyone to see - we launch a new product almost every second month. These are either new products or improved versions of current products. Research and innovation is what drives the company.

**Do you plan to enhance the range of accessories? What is scope for expansion?**

With newer technologies and new consumer demands coming in at a rapid pace, we are all geared up to offer the latest and expand our product offering in response to the market requirements. We are already planning to launch our own range of IoT products. Though consumers currently find other brands expensive, PTron will launch its IoT products at such price points that most consumers will find it reasonable and affordable. We are game for the opportunities this fast-evolving industry brings to us!

**How has been the response of PTron accessories?**

PTron products are being sold online for the last 4-5 years. Initially we were only selling it online and targeted tier-1 cities. With time and demand, PTron products are now available on all leading e-commerce websites, 1000+ offline retail stores and present in many foreign countries apart from India. Today, we offer a wide range of mobile accessories like wired earphones, Bluetooth headphones, Bluetooth portable speakers, smart gadgets, chargers, and cables. All our product categories have received positive traction online and offline. Based on our analytics and reports, we can say that our audio related products like earphones and speakers, particularly the Bluetooth devices, are highly appreciated by the consumers. We are one of the few players who have Bluetooth certified products by BQB labs.

**What has been PTron’s growth graph since 2014 and what is its growth trajectory?**

PTron’s growth has been promising since the inception of the brand. We have sold more than 2.5 million units of PTron mobile accessories in various categories like wired earphones, Bluetooth headsets, Bluetooth speakers, chargers, and smart gadgets. We have noticed an increasing demand for PTron products coming from all parts of India. In the recent past, there has been a positive shift in tier-2 and tier-
3 cities due to penetration of budget smartphones and improvement in the telecom network. We expect the demand for PTron products to increase from such cities due to our strengths- low priced products with good quality and backed by warranty. We target to sell 2 million units of PTron accessories for the FY 19-20.

What is your dealer’s network and expansion plans?

PTron products are available in around 1,000 retail outlets with a strong distribution network in 15 states of India which include Delhi-NCR, Punjab, Haryana, Uttar Pradesh, Uttarakhand, Bihar, Telangana, Andhra Pradesh, Karnataka, Tamil Nadu, West Bengal, Odisha, Maharashtra, Gujarat and Rajasthan. For the FY 19-20, we will work aggressively on expanding our wholesale distribution channel to reach out the offline retail consumers. At the same time, we are also working on making PTron a global brand. Currently, we are present in countries like USA, Hong Kong, Israel, Indonesia, Italy and Canada.

What kind of challenges PTron faced in its entrepreneurial journey?

One of the biggest challenges was posed by cheap and sub-standard grey market products which dominated the Indian market until recently. This problem is not just restricted to India, it is a global problem. However, we are seeing a shift in consumer preference. For a marginally higher price, if one gets a product with warranty, a product that is safe to use, consumers gravitate towards such brand. This is precisely why PTron has succeeded and continues to do so. We strongly believe that stringent laws and consumer awareness may help in eliminating this parallel grey market to a large extent. With increasing consumer demand, we are also seeing regulatory reforms coming in, like requirement of BIS certificate for chargers and power banks.

About Ameen Khwaja

Ameen Khwaja, Founder & CEO, PTron, is a digital entrepreneur with over 12 years of award-winning work in the fields of e-commerce, Digital Marketing, Social Media Marketing, and Search Engine Marketing. He spearheads the strategic marketing division and utilizes his skills to build an online community, sales and brand awareness platform for the products. Specializing in digital media and brand building, Ameen has been associated with many organizations over the course of his career. He has worked as a digital marketing consultant to several industrial bigwigs such as Qwest, Public Storage, AIG, Kwikfit, Tempcover UK, and Admiral.

Ameen started young and worked on freelance website development projects from the age of 20. In 2004, his brainchild Premium Web Services came into existence. The company, before its merger in 2014, added more than 200 e-commerce websites to its portfolio like Nooridresses, DressyCostumes, theflatware, and many more specially developed for US markets.

Ameen's keen interest in technology-based products and quest for offering the good quality affordable products led to the creation of a global brand known as PTron. Ameen also won 'Entrepreneur of the year' award in trading business e-retailer' organized by Franchise India in partnership with ET Now in 2016.

Ameen is an alumnus of the University of East London and graduated as an Electronics Engineer with a Major in Robotics. A keen techie, he spends his leisure time with family and friends exploring new avenues to bring positive changes in Indian technology segment.
Hackig several small or medium sized businesses successfully can be more profitable than trying to hack a major company. Besides risks related to malicious outsiders, internal threats are also among the top cybersecurity concerns – whether these occur due to malevolent intentions, or as a result of carelessness or ignorance of appropriate security precautions. Nowadays more companies are paying attention to the risks that insiders can pose to the company’s data security than in the past.

Recent studies has shown that both the number of cyber-attacks and data breaches among SMBs have increased from 2018 to 2019. Although small and medium businesses increasingly confront the same cybersecurity risks as bigger companies, only 28 percent rate their ability to mitigate threats, vulnerabilities and attacks as “highly effective”. Let’s find out how the DLP solutions, such as Endpoint Protector by CoSoSys can help small and medium sized businesses in providing defense against threats – and not only.

Keep Sensitive Data Safe

For businesses of every size, it is becoming critical to prevent sensitive data and customer information from leaving the organization. Thus the misconception that many SMBs share – that they don’t really have information worth of losing or stealing – is proved wrong. Although big companies are the ones who get the most attention in headlines in case of a data breach, the rate among smaller businesses who suffer data leaks is also high. Besides customers’ sensitive information like names, credit card numbers and email addresses, intellectual property (IP) is another type of sensitive data that SMBs must protect. This includes patents, trade secrets or employee know-how.

Data loss prevention solutions can locate sensitive documents and monitor how they are being used and by whom. Furthermore, these solutions are able to monitor, control and block confidential data transfers through different endpoints such as e-mails, cloud solutions and other applications.

Comply with Regulations

Just like large enterprises, small or mid-size business need to comply with different national, international and industry regulations, like GDPR, PIPEDA or PCI DSS. Failing to meet the standards implies costs both on the short and long-term, including penalties, diminished customer trust and risks related to lost data.

DLP technologies can help SMBs in the process of compliance with identifying, monitoring and protecting confidential information.

Reduce Threats for Mobility

Along with the rise of Bring Your Own Device (BYOD) culture and remote working opportunities being embraced by SMBs, all sorts of challenges appear from a security perspective. Mobility involves a higher chance of a device being lost or stolen, as well as a greater risk of the company’s sensitive data that is stored or accessed on the device being compromised.

With complete endpoint monitoring, DLP solutions like Endpoint Protector by CoSoSys can prevent employees and contractors from intentionally or unintentionally leaking data. They can also provide access – as and when required – to a device without leaving sensitive data vulnerable, as well as automatically encrypt confidential data transferred to USB storage devices. It is not uncommon to see mixed environments (Windows, macOS, Linux) in SMBs, and as each operating system has its own unique set of security flaws and vulnerabilities, it is important to keep in mind that the chosen DLP solution should provide cross-platform protection.

Although traditionally DLPs might be seen as too complex solutions and difficult to implement for SMBs, nowadays a number of DLP software developers offer modular options that can be combined and matched to the company’s needs.

Data Loss Prevention (DLP) solutions can help small and medium businesses (SMBs) not only in protecting their intellectual property, but in achieving compliance with different regulations as well. Digital security issues threaten businesses of all sizes; while larger companies have more data to steal, smaller businesses have less secure networks and thus usually they become quick and easy targets in the eyes of cybercriminals.

Top 3 Reasons to Use DLP for SMBs

3. Comply with Regulations

2. Reduce Threats for Mobility

1. Keep Sensitive Data Safe

About Filip Cotfas

Filip Cotfas, Channel Manager, Cososys, has an impressive 4 years background in sales and project management. As a Channel Manager at Cososys, he is utilizing his extensive skills for the daily operating efficiency with a focus on the South Asia, Middle East and Northern Europe markets. Filip’s main responsibility is handling the existing Customer portfolio, as well as acquiring additional revenue streams, mainly by coordinating with the existing partners or enabling new partnerships, in order to help more customers benefit from our award-winning Data Loss Prevention solution. In the past years, he has been developing the sales strategies for his markets and built a successful relationship with channel partners. Filip’s objective is helping businesses overcoming their security challenges and protecting their sensitive information. He is goal-oriented with a genuine passion for sales and business development.
A

n alumnus of Delhi University, Amit Jain, founder, Rising Star Tour and Travels is a diligent entrepreneur with commendable leadership qualities. From handling the team to delivering an impeccable experience to his clients, Amit plays multifaceted roles in managing business operations, systematically and seamlessly. An avid traveler himself, he identified the existing gaps in the tour and travel industry in India and the challenges that travellers face on a regular basis. His singular aim is to make travelling easier and simpler that almost every individual in the society can travel across the world and enjoy the boundless beauty of the nature. He started his entrepreneurial journey alone, and was eventually supported by his family. With sheer dedication and relentless efforts in making his startup a success, Amit Jain established a wide network with tour operators first in India and later, in the overseas market. “When we decided to reach a large target market, we noticed that visually impaired people are an overlooked component of the market. And when we studied the section carefully, we realized that a majority of them are travel buffs whose yearning to travel is least gratified,” says Amit and continues, “Our focus is to provide assistive travel to the visually impaired community. We aim to help them discover a whole new world and become a part of it. It is not about charity, it is about Spreading Happiness.” He invited the key social influencers to be part of his great initiative “BE SOMEONE’S EYES” and take this forward to make it big with the motto ‘Together We Can & Together We Will’.

SME WORLD, in an email interaction with Amit Jain.

Organizing tours for visually impaired is unheard of. How did you initiate this venture and what is your motive behind this unusual activity?

When we decided to reach a large target market, we noticed that visually impaired people are an overlooked component of the market. And when we studied the section carefully, we realised that a majority of them are travel buffs whose yearning to travel is least gratified. Where people do provide them with food, clothes, etc., however, none of them made them travel to their favourite destinations. Their dreams and ambitions are never fulfilled, partly because their lack of confidence didn’t allow them to share their
wishes with sighted people or nobody ever gave it much importance. Serving this industry for so long, we thought it our responsibility to fill them with confidence and delight through an exciting trip. True that they cannot see the hues of nature or the picturesque beauty of the heritage sites, but they can feel it and we help them to do it. With this initiative, we strove to satisfy their desire to travel and explore regardless of their disabilities and boost their confidence as the saying goes, travelling translates into self-confidence and self-dependence.

Who inspired you to undertake such tours?
The travellers themselves inspired us to plan special tours for visually impaired people. Their intellect and their boundless love for all, regardless of their age, race, and gender inspired us the most. They are completely devoid of any avarice or prejudice against anyone and are kind to everyone. We thought of giving them back some cherishable memories. So, our first trip with them was to Pangot, and it was a life-changing experience for all of us. The response was so overwhelming that we pledged to change the lives of at least a 1000 VI a year. And since then, we have organised 03 trips within a short span of time and the 4th one will be in May.

What kind of challenges you face in such ventures?
Changing the thought-process of visually impaired people that they cannot travel is the first and biggest challenge we come across. Their lack of confidence and self-esteem restrain them from coming out of four walls. And so, convincing them why they should travel has always been an issue. Another challenge is getting permission from their parents. Though we have successfully organised 3 trips till now, it nevertheless takes us a while to assure them that we will take complete care of their kids' safety and security. We had to explain it to them how travellers will gain a worthy experience and learning. Finding right hotels to stay, restaurants with a sensitive attitude towards visually impaired people, and calling on the right people to volunteer for their assistance are some of the roadblocks that make organising the tours a bit tough. But, we know that such travels are possible and successful only when these challenges are tackled well. So, we plan all the things beforehand.

A sightless person can’t see the grandiosity of various places. How do you ensure that they enjoy to the maximum?
Who says that you must need eyes to perceive the beauty of the universe? You only need a will and that our travellers have in abundance. We literally ensure they enjoy every bit of it and that’s why, we have volunteers on board. Volunteers guide visually impaired people and

An avid traveler himself, Amit identified the existing gaps in the tour and travel industry in India and the challenges that travellers face on a regular basis. His singular aim is to make travelling easier and simpler that almost every individual in the society can travel across the world and enjoy the boundless beauty of the nature. He started his entrepreneurial journey alone, and was eventually supported by his family.
Moreover, our volunteers become the flowing rivers, and sand etc. around like carvings on walls, helping them touch & feel everything what's happening around them and how. A sufficient time is provided to them to sense and experience the way they want it, not how we want them to.

Do you carry any kind of 'aids' like Braille scripts etc?

As we started this activity recently, we do not carry any aids. But, we are thinking to arrange for it in future. Presently, we make the complete assistance of volunteers available to them. We do a volunteer briefing before travel in which we train them on how to guide blind people, how to hold their hands, and how to enhance their experience, etc. Also, travellers are free to carry with them whatever they want.

How many tours you have conducted so far?

We have carried out three special trips for visually impaired people in nine months. The first trip was to Pangot, and we were 27 in total. In our 2nd trip to Rishikesh, we were 40 people and the 3rd trip was to Jaipur, we were 70 people. Now, the 4th one is in April/May with 70 People. Our 2nd trip happened after 6 months of the first trip, and our 3rd trip after 3 months of the second trip and our 4th trip is happening after just 2 months of our third trip. With a good response from the travellers, we are taking trips more frequently now.

Who funds these tours?

Such trips involve a lot of costs to the company, but we take care of it. In the case of shortfalls, we do get support from various sponsors and resorts. My family & friends, too, are coming forward to support us in such a good cause.

How does this challenged community take the venture?

This initiative has been taken positively by the entire community of visually impaired people as we have been receiving requests in huge numbers from those who want to travel with us. We are getting support from numerous organisations that are committed to the welfare of visually impaired people. We received appreciation from National Association for the Blind (NAB), largest blind trip association in the country and All India Confederation of the Blind (AICB), a body of blind persons working for and with the blind community.

You must be drawing a lot of satisfaction and a kind of sense of achievement. Please explain your experiences.

It has been a life-learning experience for us and all those who have travelled with us as a volunteer or a traveller. The experiences and feedbacks that volunteers and travellers share after coming back from the trip are truly heartwarming. We must say, the happy smiles of the travellers are priceless for us. It gives us deep inner bliss when travellers of and on tell us that we have made them live their dream of travelling. And, nothing can be compared to the feeling when even market leaders applaud our efforts.

What is your vision and the next level for your enterprise?

We would want to continue conducting such tours & touching lives of the challenged people all over the globe. As told earlier, we took a pledge to change the life of at least 1000 VI people a year through travel. If all things fall into place, we will create a platform for people with disabilities to travel even the farthest corner of the world with super ease. It's the vision of Rising Star Tour and Travels to create a platform where one disabled community becomes the support system of another community of differently disabled.

About Amit Jain

Amit Jain, founder of Rising Star Tours & Travels, has commendable leadership qualities and shoulders the responsibility of steering swift growth and expansion of the company. In these 21 years of business, Amit made the survival of Rising Star Tours & Travels possible during hard times. The year 2008 brought along the global economic recession and its subsequent effects on the Indian Tourism Industry were noticed till 2010. In addition, low liquidity in the financial sector was creating funding problems for small as well as large companies. Even in this bleak scenario, the leadership of Amit Jain stood tall against all odds and the challenges. It is under his stewardship that the company achieved various affiliations from the reputed organisations in the tour & travel industry.

Amit is determined to strengthen the digital presence of Rising Star Tour & Travels and increase the website traffic to 5 lakhs visits a day. Achieving a turnover of 100 crores in the next two years is his primary goal. As Indian tour & travel industry is still fragmented and relatively small, opening a franchise model to become a helping hand to small travel agencies is also on top priority in the list of his future plans.
A big lesson from social science is that environment matters- if you go to a buffet and the buffet is organized in one way, you will eat one thing and if organized in a different way, you will savour different things. We think we make decisions on our own, which is not true cause the environ impacts it hard. Thus one needs to think how to change our environ. We can't control the environ, everywhere we go, but we have more control; then we usually choose to exercise. Distractions literally make you stupid.

Research shows that the most productive computer programmers have one thing in common. It's not experience, salary or hours on the project – it's the employers who gave them an environ free from distraction. Follow the 20 second rule – make the things you shouldn't be doing 20 seconds harder. Sounds tiny, yet it makes a huge impact. By re-arranging your work space such that temptations are not visible. You can trick yourself into making better/effective choices. Hence close the web browser, while keeping your phone away from the work space by charging it in a different room.

Book a conference room and work from there- not only will you be distraction free, but you will probably be more creative. Research shows that the more authority figures hang around, the more questions/ clarifications they ask and especially the more feedback they give their people, the less creative work eventually would occur.

Why? cause doing creative work entails constant setbacks /failures and people want to succeed when boss is watching – means doing things proven, less creative those are sure to work.

End the day – Right on time

Impose a strict time off mechanism - fix the hour when you bid adieu to the office- such that you can ensure you are adding to the buckets of enjoying, winning, counting, extending- not just working- working and working more. Unless you hate your job, how you end the day matters more than you might think. Whether arguments with your spouse or the last lines of a movie, endings matter. So take the time to end the day well. Those last moments at work every day looms large in terms of how you feel about your job.

Recommended is a shut down ritual - during which you take time to close out the day's business and prepare for tomorrow. Research shows that writing down the things you need to take care of tomorrow settles the brain and helps one to relax. When you are concerned about something you are prone to forget, it engages a cluster of brain regions referred to as a rehearsal loop- and you keep worrying, worrying more getting more paranoid by each passing moment.

Writing your thoughts down and making a plan for tomorrow switches it off. Then get yourself some down time. The effective ways to de-stress – engaging a constructive hobby, chilling with friends, long drives, creative arts etc. Research shows that weekends are great because it's the extra time that people care about. You get an average of 1.7 extra hours of friends' time on weekend, and this creates a happiness boost. And don’t neglect to sleep- cause you don't want to start hallucinating that you are a rock star.

Remember your plan won’t be perfect right out of the gate. You will/shall screw up. Its fine- don't forget the self compassion. Forgiving yourself both makes you feel better and prevents procrastination. A study of 119 students showed that those who forgave themselves for procrastinating on studying for one test subsequently procrastinated less on the second one. They felt better and rather than beating themselves up. They were able to move on and perform better.

You can get where you want to go. A plan will move you a lot closer to all – round life success. Remember there are 3 categories of people – the person who goes into the office, puts his feet up on his desk and dreams for 12 hours, the person who arrives at 5 am, works 16 hours, never once stopping to dream and finally the person who puts his feet up, dreams for 1 hour, then does something about those dreams.

Track your Time.

You can't balance your time, if you don't know where it’s going. To understand a company’s strategy, look at what they actually do rather than what they say they will do. Write down where each hour goes as it happens. Don't rely on your fallible memory. Do this for a week – where your activities are taking you, and is that where you wanted to go. The results will be depressing, yet you would know exactly that you are actually spending more time than you think you are.

Beyond that, note which hours are
Research shows that the most productive computer programmers have one thing in common. It's not experience, salary or hours on the project – it's the employers who gave them an environ free from distraction. Follow the 20 second rule – make the things you shouldn’t be doing 20 seconds harder. Sounds tiny.

contributing to which of the big four:
Happiness = enjoying
Achievement = winning
Significance = counting to others
Legacy = extending

- Examine the hot spots in your schedule.
- When do you waste the most time?
- When do you overdo one of the big four at the expense of other?

You will get more bangs for your buck changing your routines around these hot spots than by a vague notion of working less or trying to spend more time with the family. By the same token, look for trends that are working. When do you get disproportionate results- morning or evening- home or office? Try to make those moments more consistent.

Caution: you cannot maximise two things that are both dependent on the same resource- time. You don’t want thus to eliminate any categories with a sequencing/collapsing strategy. Hence make decisions on how much time you want to allot weekly to all four. You can revise later but right now you need to start and once you hit the number of hours in one category; address the hot spots in another.

Talk to your boss.
Most of us feel stifled with the assumption that we simply don’t have the latitude to make big changes cause the boss won't allow it. Interesting. Yet if you really want to a better work –life balance, desist, making assumptions. Simply sit with you supervisor and actually discuss it – rather than finger pointing. You don’t need to say 'I want to work less'. Ask him for a clear idea of your role/ expectations and whether this /that change would really be an issue.

Ask for an estimate of how much time he wants you to do shallow work like responding to emails. Sitting in meetings and how much he wants you cranking in deep work –one that actually produces results. This endeavour is known as active partnering during which the subordinates/manager share their personal/professional objectives. A study of 473 executives showed that after 12 months of active partnering, 62 who wanted to call quits, decided to stick around while a number of them got promoted too.

Proactive employees who have plans ask about priorities, while trying to head off problems are deep assets. And when you produce results, you will certainly get more latitude- meaning more freedom and control to execute your plan. Handle it right and its an upward spiral for all.

Your call now folks

Contributed by -K S Ahluwalia, Executive Coach and Mentor-Excalibre, E-mail: ks.ahluwalia@yahoo.com

Call for Water ATM Policy to Enable Affordable Safe Drinking Water to All

E
xperts have called upon the central government to draft a national water ATM policy aimed at the adoption of state-of-the-art IoT technology and a services approach rather than a hardware approach to optimize the operations of millions of decentralized but under-utilized water purification plants spread across the country. This, they argued, is critical to effectively meet the challenge of providing safe and affordable drinking water for the masses, especially in rural areas.

Talking about the importance of technology enablement of decentralized water purification plants in the run up to the World Water Day, Parag Agarwal, Founder & CMD of India’s premier water services company JanaJal, said: “Millions of manual water purification plants exist in India, set up by state governments, charitable foundations, NGOs, philanthropists and under CSR initiatives of corporate to meet drinking water needs of the urban and rural masses. However, proper management of these systems post commissioning is missing. Almost all of them are currently under-utilized in terms of capacity, or are simply not operational. This is due to lack of consistency in their operations and absence of lifecycle management, which in turn leads to un-reliability and lack of operational viability, thereby creating a trust deficit in the minds of consumers. Because of a lack of attention to services in the existing water infrastructure, bottled water has become the order of the day. However less than 5% of Indians can afford such expensive packaged water on a sustainable basis.”

“The need of the hour is to adopt a unified technology backbone for remote monitoring and management of existing water infrastructure and graduate from a hardware approach to a services approach for consistent supervision and management. The Government of India must view water treatment plants as very valuable critical infrastructure instead of just RO plants. The need to introduce a national water ATM policy and guidelines for implementation will help state governments to deliver the vision. This will expedite their ability to make safe drinking water available to people at an affordable price and bridge the much-widened gap between demand and supply. Harnessing existing water infrastructure that is grossly under-utilized also eliminates the need to invest fresh capital in setting up new ones.”

SME WORLD APRIL, 2019 42 www.smeworld.asia
AISECT is India's leading Social Enterprise working in the areas of Skill Development, Higher Education, Financial Inclusion and other ICT based services to bring about inclusive change in the semi-urban and rural areas of the country. Established 1985, the organization has been working towards bridging the skills and ICT gap between urban and rural India and creating local job opportunities for the rural youth. AISECT has been untiringly reaching out to the remotest corners of the country to empower people, generate employment for the youth and unfold entrepreneurial initiatives.

With a pan-India presence through 23,000 Skill Knowledge Provider Centres across 29 States and 3 Union Territories, 10 State offices and 30 Regional offices, AISECT has gradually built its network at the grassroots level. An ISO 9001:2008 certified organization; AISECT's initiatives are targeted towards all categories of people from the community – school students, graduate program students, office goers/job holders, working women, housewives, Below Poverty Line Youth, Panchayati Raj Institutions, Parent Teacher Associations and Government Departments.

Entrepreneurial Network

The self-sustainable and scalable AISECT model reflects the demand side of communities for various skills and ICT services required in the unorganized sector. It is today India's biggest entrepreneurial network in semi-urban and rural areas with more than 15,000 rural entrepreneurs across 388 districts, 1,070 blocks and 6,000 panchayats who have an annual income ranging from Rs. 2 lakh to 1 crore. Furthermore, the organization has so far successfully trained over 20 lakh people, created employment opportunities within the network for more than 75,000 people and empowered the lives of over 50 lakh people through innovative services.

Pioneering the 'Multipurpose Centre' Model, AISECT utilizes the infrastructure of its existing Education Centre to offer numerous services including skill development, capacity building, information window, maintenance and repair, sale of allied products and services, e-Governance, banking and insurance services, etc.

In its endeavor to uplift and empower the rural and semi-urban masses, AISECT has introduced a series of path-breaking innovative solutions. These include:

Vocational Education: In association with the National Skill Development Corporation (NSDC), AISECT has set-up 12 academies based upon the opportunities in the job market and the value of such employable skills to the growing workforce. These academies offer low cost, high quality teaching through university certified undergraduate, postgraduate, certificate and diploma courses in areas like IT & Management, Hardware & Networking, Teacher Training, Telecom Skills, Retail Management, Agriculture, Insurance, Banking & Finance, Textile Training, Fire Safety & Security, Livelihood & Vocational Training and Auto Skills.

Skill Development: Spearheading skill development and capacity building initiatives of the Central & State Governments, AISECT’s key projects include Pradhan Mantri Kaushal VikasYojana, SarvaShikshaAbhiyan, Swarnjayanti Gram SwarozgarYojana (SGSY) etc.

Online Education: For AISECT's endeavors to support the Skill India and Sarva Shiksha Abhiyan movements, aisectmoocs.com was established as India's largest free online open learning platform. In association with Ireland-based ALISON, AISECT offers inclusivity in education by giving students in the remotest corners of the country easy and free access to world-class course curriculum with over 2000 free certificate/ diploma courses available in both English and Hindi.

Higher Education: The AISECT Group has established several premier higher education institutions at locations which were in dire need of quality higher education institutions. In 2006, the Dr. C.V. Raman University was established in Bilaspur, Chhattisgarh as Central
The organization has also initiated mobile ATM services in partnership with its banking partners.

AISECT has also tied-up with renowned insurance providers such as SBI Life to provide renewal premium collection services through its banking kiosks. The organization is also conducting financial literacy programme in the states of Madhya Pradesh and Chhattisgarh for rural adults, especially women, as per its partnership with CSC SPV and National Bank for Agriculture and Rural Development (NABARD).

B2C Services: AISECT has also initiated concentrated efforts to offer various B2C services such as mobile and DTH recharge, examination form download and submission, railway ticket booking, data entry operations, etc. through its widespread network of centres so as to make such services more accessible to the common man.

Awards

AISECT has won numerous awards and recognitions at national as well as international platforms. Recognized as the “the most sustainable and scalable form of IT penetration & popularization in India” by the World Bank-IIM (A) Joint Report, AISECT's achievements and innovative initiatives have also been acknowledged by UNDP and Sitaram Rao Livelihoods Asia in the form of case studies.

Financial Inclusion: AISECT works as a Business Correspondent under the financial inclusion scheme wherein it has set up over 4,000 banking kiosks in association with 26 nationalized banks with 75 lakh accounts opened so far and transactions worth Rs. 5000 crores.
Deakin University, Australia announced four High Value Scholarships in partnership with Indian organisations. These high value scholarships are available as 100% tuition fee waivers for the entire duration of the study at Deakin University, Australia. The four scholarships being awarded are across the key thematic areas at Deakin that are futuristic and will help in solving global challenges, making a positive impact on the world. The scholarships are:

1. **Science, Technology, Engineering and Mathematics (STEM) scholarship**, in association with Biocon, India's largest biopharmaceutical industry.

2. **Sports Scholarship**, being offered in collaboration with Rajasthan Royals, an IPL team.

3. **Creative Arts Scholarship** being awarded in collaboration with a leading media group.

4. **Deakin's Undergraduate and Postgraduate scholarship**

“The Deakin-Biocon scholarship aims to deliver integrative education in Science Technology Engineering and Math that will encourage the student to be a future innovator” expressed Ms Kiran Mazumdar-Shaw, Chairperson & Managing Director, Biocon Limited.

Covering areas ranging from sports to biotechnology to healthcare, Deakin University has developed into a key conduit in the Australia-India relationship, linking Australian academic expertise with leading Indian research institutions and industry. The university currently boasts of 45 strategic partnerships among its more than 100 collaborations across India.

These scholarships fall within the ambit of Deakin University's Vice Chancellor's Meritorious Scholarship and were first introduced for Indian aspirants in 2014. Under this, scholars are inducted into the Vice Chancellor's Professional Excellence Program (VCPEP). Scholars are expected to complete the VCPEP alongside their course, with support at every step that enables them to go beyond their expectations, be ready for the careers of the future, and make significant contributions to our community.

Deakin University, Australia, has infused AUD 2 million in VC scholarships in the last 4 years, and plans to invest over AUD 1 million in the next 3 years. 19 students have received this scholarship since its inception in 2014 and are currently pursuing their on-shore studies at Deakin. The scholarship has gained much popularity under the Changing Lives theme with the university creating more awareness about global opportunities for learning, mentorship and creating a platform for the future.

Professor Jane den Hollander AO, Vice-Chancellor & President, Deakin University, stated that, “The
collaboration with Indian organisations for the Vice Chancellor's Meritorious Scholarships is an important bridge to enabling more and more students to study abroad and gain from international experience. We have established over the past 25 years a deep engagement between the University and organizations in India across areas of mutual synergy. In the coming years, these very themes will be extremely crucial as the requirements for skills and knowledge undergo rapid transformation. My best wishes to all the potential applicants for their endeavours as they embark on their journey towards futuristic learning.”

The scholarships announcement came out at the Inaugural of Deakin’s 25 years of Engagement in India celebrations at New Delhi. As part of the silver jubilee, the university held an array of events that will set the tone for the University’s Vision: 2025, from March 11 – 15, 2019. Events were held in New Delhi and Chennai in association with the Australian Trade and Investment Commission - Austrade, to advance key engagement activities in this week-long celebration.

Apart from scholarships at undergraduate and postgraduate level, Deakin University, through its Deakin India Research Initiative (DIRI) is also providing 30 Research Scholarships in 2019 for students to pursue in-country PhD programs.

Under this model, research projects are identified with the Indian partner and PhD candidates are enrolled with Deakin University. The program is hosted in the labs of the Partner Company or institute. This scholarship entitles PhD scholars for a full tuition fee waiver of up to AUD 100,000. Both the partners provide joint supervision to the candidate. An in-country stipend is paid to the student by the Indian partner. Deakin supplies a travel fund of up to AUD 10,000 for the student to travel and study in Australia one time for up to 6 months. In addition, Deakin provides AUD 1000 to support the student to present their research at an international conference.

Ms Ravneet Pawha, Deputy Vice

President (Global Engagement) and CEO (South Asia), Deakin University added, “Deakin’s Meritorious Scholarships in India is an integral part of our efforts to provide an opportunity to the talented youth of the country. Deakin University has also invested AUD 11 million in research collaborations in India over the past five years, we also plan to infuse AUD 9 million over the next three years for research scholarships in the country.”

Covering areas ranging from sports to biotechnology to healthcare, Deakin University has developed into a key conduit in the Australia-India relationship, linking Australian academic expertise with leading Indian research institutions and industry. The university currently boasts of 45 strategic partnerships among its more than 100 collaborations across India. At present, it is home to more than 5,000 Indian students and researchers, with Indians constituting the largest cohort of international students at Deakin.

About Deakin University

Established in 1974, Deakin University successfully combines excellence in teaching, research and effective partnerships with industry and government to deliver high quality courses and undertake research that makes a difference to the domestic and international communities it serves. Deakin’s South Asia operations commenced in 1994 at New Delhi, India, making it one of the first overseas education provider to set operations in this region. Here, Deakin engages with the government, industry and the academia to share its vibrant culture of education and research. For more information, visit: http://www.deakin.edu.
Dovetail Furniture, a pioneer in retail fixture and institutional furniture, established in 1984, has come a long way from working with local brands to well-known international brands. Sundar S, an NID Alumni and co-founder, Dovetail Furniture, shares his entrepreneurial journey, business plans and industry insights.

Back in the eighties, retail design in the country was at a nascent stage and largely unorganized. There were very few workshops that had the design and manufacturing capability to manufacture the designs as per the specifications. Hence it was difficult for international brands that had entered the country to set up their stores as their retail fixtures had to be designed as per their company standards and specifications. Since my co-director John Mathew and I were NID Alumni and passionate about design and manufacturing, we saw the growth opportunity in the retail fixtures segment and hence we started Dovetail in 1984. Our venture was completely bootstrapped and we took a small loan of Rs. 1 lakh from KSFC. We purchased some tools and machineries and started to operate out of a 2,500-squarefoot shed with 5 workers.

The Journey

Our first project was for erstwhile popular clothing brand Weekender and we setup about 50 brand stores for them. As the years passed, we gradually entered other segments viz, educational institutions, office and home furniture. In 1988 we got an opportunity to design and manufacture furniture and interiors for the Karnataka State Institute for Rural Development in Mysore. It was a proud moment for us as it gave us the recognition as a serious industry player. Another high moment for us was winning contract for Mallya Aditi International School for the complete design, manufacture and installation of furniture for classrooms, staff rooms and laboratories. Likewise, we got opportunity to work for many well-known national and international brands. We were working with multiple clients across segments. Of course, we had a few hiccups in the journey. During the initial days, finding skilled labour and suitable machinery and tools was very difficult. And then during the recession in 2008 there was a slowdown in retail. However, we had to keep our business running and at that point of time we started taking up more school and institutional projects. This in a way helped us to expand and strengthen our educational furniture segment which still remains a core focus.

Working with different brands and growth plans

There is no one-size-fits-all model. Each and every client has their own requirements and we work closely with them to conceptualise and fulfil their requirements. Generally, the concepts that come out of the drawing boards have to be developed using different materials and then engineered to keep the functionality, look & feel intact. Dovetail always brings its wide experience and expertise in Engineering and Design Development into play. We have supported retailers to provide enhanced shopping experience by adding values in Design Development, Engineering, Material specifications, etc. Global brands have their own prescribed material specifications and we have helped them by offering suitable materials available in the Indian context. All these challenges has only increased our ability to complete the projects in an ease with best outcome.

Companies, especially international brands are now very much concerned about the quality and durability of the fixtures and furniture and consider them as an asset to the organisation. Hence, there is a huge demand for quality driven retail furniture manufacturers in the country. Due to the increased demand for commercial spaces for retail and co-working spaces in recent years, we are seeing a major growth in these business segments.

We are a B2B project oriented company and are looking to further strengthen our retail, school and office furniture segment. In this direction, we are expanding our business across the country and looking forward to associate with project management companies, architects and business associates. We have invested in a state-of-the-art manufacturing facility in Bangalore spread across 45,000 sq.ft. with end-to-end capabilities in furniture manufacture & finish.

Today, we continue to work for brands and institutions like Nike, Unlimited, Marks & Spencer, Skechers, Furlenco, Shiv Nadar School, National Centre for Biological Sciences and many more. Another high moment for us recently is working for co-working space giant WeWork.

From a small team to an 180+ workforce, from a 2500 sqft shed to 45,000 sq ft. manufacturing facility, we have come a long way. We are proud of the fact that we are pioneers in retail fixture and furniture in the country.
A Continuous Drive Towards Excellence

Guru Nanak Auto Enterprises, with over six decades of manufacturing excellence, is a leading Component Manufacture delivering maximum value to its Customers. With State-of-the-art manufacturing facilities and in-house R&D, we support our Customers throughout the period of Product development process.

Guru Nanak Auto Enterprises Limited
Corporate Office: G.T. Road, Jamalpur, Phagwara-144 632.
Distt. Kapurthala (Punjab), India.
Phone: +91-1826-270111 (6 Lines), Fax: +91-1826-270003
Email: gnae@gnaent.com

OUR GROUP COMPANIES:
- GNA Transmissions Pvt. Ltd. - Ask Overseas Pvt. Ltd.

TS-16949 & EMS-14001 Company