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ARTIFICIAL INTELLIGENCE AND BLOCK CHAIN: A FUTURE PERSPECTIVE FOR INDIAN INDUSTRIES



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Artificial Intelligence is an area of computer science that focuses the creation of intelligent machines that work and react like humans. Some of the basic activities computers with artificial intelligence are designed to do are: Speech recognition , Learning , Planning & Problem solving.

The transformation in business models, production processes and global value chains that are enabled by technological adoption and digitization have the potential to reshape work in India in a more promising way. The possibilities include creating more productive jobs, better matching job- seekers , more livelihood opportunities , more safer jobs and improving access to social security protection. So, it becomes imperative for every professional to understand the future of Artificial Intelligence (AI) in India along with its existing regulatory model to reshape their skills and contribute more profusely toward nation building.

Artificial Intelligence (AI) has been defined as the ability of a machine to perform cognitive tasks like thinking , perceiving ,learning ,problem-solving and decision making . Initially , AI was conceived as a technology to impersonate human intelligence .However , the evolution of AI is much beyond the concept first developed and especially the fusion of this technology with data analytics have catapulted the applicability of this technology in varied areas of life and business. India should strive to leverage AI for

economic growth , social development and efficient business performance.

AI , essentially signifies the science and art of making intelligent machines, especially ,intelligent computer programs. Fundamentally , it implies the science of making machines to do things that would require the required intelligence if done by a human being and ,thus, focuses that branch of computer science that is concerned with the automation of intelligent behaviour.

Over the period of time, various AI technologies have emerged , a few of them have been stated below :-

- **Machine Learning:** It uses computer algorithms based on mathematical models using probability to make assumptions and can make predictions about similar data sets.
- **Cognitive Computing:** This is build on Machine Learning using large data sets with the objective of stimulating human thought process and predictive decisions .
- **Deep Learning:** This is also build on Machine Learning using neural nets to make predictive analysis . The use of neural nets is what that differentiates Deep Learning from Cognitive Computing . Deep Learning also helps to improve image and speech recognition.
- **Predictive Application Programming Interfaces (PAPI):** It basically uses AI to provide a predictive output from a standardized

set of output from a range of data sets.

- **Natural Language Processing (NLP):** This programming is meant to understand written and spoken language just like humans along with reasoning & context and finally produce speech and writing. Many machine learning companies use NLP for training purposes on unstructured data.
- **Image Recognition:** This process recognizes pictures and objects as humans as well as pattern in a visually represented data.
- **Speech Recognition:** This converts spoken language into data sets that are processed by NLP.

Artificial Intelligence (AI) can be classified into following Systems:

- **Analytical –**
Analytical AI has characteristics consistent with cognitive intelligence generating a cognitive representation of the world and using learning based on past experience to indicate future decisions.
- **Human – inspired –**
Human inspired AI has elements from cognitive and emotional intelligence. It understands human emotions in addition to cognitive elements and consider them in their decision making.
- **Humanized artificial intelligence –**
Humanized AI shows characteristics of all types of competencies (namely: cognitive, emotional and social intelligence) and is capable of being self conscious and self aware in interactions process.

Applicability of AI in various Business Sectors:

- **Healthcare:**
The biggest bets of AI in this sector are on improving patient outcomes and reducing costs. Companies are now applying machine learning to make better and faster diagnoses than humans. One of the best known healthcare technologies is IBM Watson. It understands natural language and is capable of responding to questions asked of it. The system mines patient data and other available data sources to form a hypothesis which is presented with a confidence scoring scheme.
- **Legal:**
AI is impacting the legal sector in a big way as it helps law firms in their daily scheme of things, such as: Due Diligence (Review of Agreements

& Legal Research); Prediction Technology (Predicts the probable outcome of various on-going Cases); Legal Analytics (Provides the Judgement & Precedent Law); Electronic Billing and Automation of Documents. It is expected that time is not too far when we will see Robots replacing the professionals for the repetitive work at law firms.

- **Transportation and Manufacturing:**

Companies under this sector holds great scope for AI applications. Manufacturing was one of the first industries to harness AI by using robots to assemble products and package them for shipment.

- **Education:**

AI has the ability of monitoring and adapting to the learning patterns and providing effective solutions to students. Thus, the benefit of AI can be used to improve the standard and quality of education as a whole.

- **Finance:**

AI in personal finance applications, such as, Mint or Turbo Tax collect personal data and provide financial advice. Other programs such as IBM Watson have been applied to the process of buying a home. Today, AI performs much of the trading on Wall Street.

- **Employment:**

Many of the AI application in use stem from the demand for automation in all industries. When companies can automate tasks, they reduce man hours and increase both efficiency and accuracy due to removal of possible human error. While there has been a worry that AI will create job cuts, it is but only the repetitive manual jobs that will gradually disappear and new jobs will emerge as a result of new processes & methods and innovation driven by AI.

- **Business Intelligence:**

HANA, an AI based cloud computing platform by SAP is helping turn large amount of business data into meaningful intelligence. HANA is capable of identifying useful trends that could be used into providing actionable intelligence. 'Apptus' is an AI based tool which helps on-line merchants boost their sales under given market conditions.

Some examples of AI Technology in Industry and Business:

- Automation;
- Machine Learning;
- Supervised Learning;

- Unsupervised Learning ;
- Reinforcement Learning ;
- Machine Vision ;
- Natural Language Processing ;
- Robotics ;
- Self-driving Cars;

Legal Framework to govern AI:

The constitution of India is the basic legal framework which allocates rights and obligations to a person or citizen. Unfortunately, courts are yet to adjudicate upon the legal status of AI machines, the determination of which would clear up the existing debate of the applicability of existing laws to AI machines.

With the rampant development in the field of AI, wherein self driven cars and almost fully automated machines and robots emerge, pertinent legal considerations arise in the form of attributing liability in case of damage. The assignment of liability is a crucial aspect of granting artificially intelligent entities a legal personality. The general rules so far have been that since robots and machines cannot qualify as natural or legal person, they cannot be held liable in their own capacity. As one court observed, robots cannot be sued even though they can cause serious damage.

It has to be understood that damage is one of the main conditions of civil liability which must be proved to obtain redress. Arguments are put forth that if AI would be fully autonomous (such as, super intelligence), then they must be aware of their actions. If they are aware of their actions, they must be liable for their actions too. An AI autonomy in the eyes of law means that AI has right and corresponding duties. In law, rights and duties are attributed to legal persons, both natural (such as, humans) and artificial (such as corporations). Therefore, if we seek for AI to be liable for its actions, there is an argument to be made about whether or not legal personality should be attributed to it. Although in the event AI is given independent autonomy, the challenge would continue in the enforcement of rights / obligations against AI. And it is expected that jurisprudence in this regard would certainly evolve with passage of time.

Blockchain Technology:

A block chain is a time stamped series of immutable record of data that is managed by cluster of computers not owned by any single entity. Each of these blocks of data are secured and bound to each other using cryptographic principles (i.e., chain).

The block chain network has no central authority. Since it is a shared and immutable ledger, the information is open for anyone and everyone to see. Hence, anything that is built on the block chain is

by its very nature transparent and everyone involved is accountable for their actions. The block chain carries no transaction cost but infrastructure cost. The block chain is a simple yet ingenious way of passing information in a fully automated and safe manner.

In the financial world the applications are more obvious and revolutionary changes are more imminent. For instance, block chains will change the way stock exchanges work, loans are bundled and insurances contracted. Block chain will eliminate bank accounts and practically most of the services offered by banks. Almost every financial institution will be forced to change fundamentally once the advantages of a safe ledger without any transaction fee is understood and implemented. Bankers will thus become mere advisors and not the gate-keepers of the customers' money. Stock brokers will no longer be able to earn commission and the buy / sell spread will disappear.

Three Pillars of Block Chain Technology:

Pillar One :

Decentralization – In a decentralized system, the information is not stored by one single entity. In fact, everyone in the network owns the information.

Pillar Two :

Transparency – One of the most interesting and misunderstood concepts in block chain technology is transparency.

Pillar Three :

Immutability – In the context of block chain it implies that once something has been entered into the block chain, it cannot be tampered with.

Applications of Black chain:

- **Smart Contracts:** Distributed ledgers enable coding of simple contracts that will be executed when specified contracts are met. Ethereum is an open source Block Chain project that was built specifically to realize this possibility. Still, in its early stages, Ethereum has the potential to leverage the usefulness of block chains on a truly world – changing scale.

At the technology's current level of development, smart contracts can be programmed to perform simple functions. For example, a derivative could be paid out when a financial instrument meets certain benchmark.

- **The Sharing Economy:** With companies like Uber and Airbnb flourishing, the sharing economy is already a proven success. Currently, however, users who want to book a ride – sharing service have to rely on an intermediary like Uber. By enabling peer- to- peer payments, the block chain opens the door to direct interaction

between parties resulting in a more decentralized sharing of business activities.

- **Crowdfunding:** Crowdfunding initiatives like Kickstarter and Gofundme are doing the advance work for the emerging peer- to -per economy. The popularity of these sites suggest people want to have a direct say in product development. Block chains takes this initiatives to the next level, potentially creating crowd sourced venture capital funds.
- **Governance:** By making the results fully transparent and fully accessible ,distributed data base technology could bring full transparency to elections or any kind of poll taking . Ethereum based smart contracts help to automate the process. The application, Board Room enables organizational decision making to happen on the block chain. In practice, this implies company governance becomes fully transparent and verifiable when managing digital assets, equity or important information.
- **Supply Chain Auditing:** Consumers increasingly want to know that the ethical claims companies make about their companies are real. Distributed ledgers provide an easy way to certify that the things we buy are genuine. Transparency comes with block chain based time stamping of a date & location that corresponds to a product number.
- **File Storage:** Decentralizing file storage on the internet brings clear benefits. Distributing data throughout the network protects files from getting hacked or lost. An internet made up of completely decentralized websites has the potential to speed up file transfer and streaming times. Such an improvement is not only convenient; it is a necessary upgrade to the web's currently overloaded content – delivery system.
- **Prediction Markets:** The prediction market application, Augur, provides share offerings on the outcome of real – world events. Participants can earn money by buying into the correct prediction. The more shares purchased as a result of correct outcome, the higher the payout will be.
- **Protection of Intellectual Property:** As is well known, digital information can be infinitely reproduced and widely distributed, thanks to the internet. This has given web users globally a gold mine of free content. However, copy right holders have not been so lucky, losing control over their intellectual property and suffering financially, as a consequence. Smart contracts can protect copyright and automate the sale of creative works on line eliminating the risk of file

copying and re-distribution.

- **Identity Management:** There is definite need for better identity management on the web. The ability to verify one's identity is the key to any financial transaction that happens on line. However, remedies for security risks that come with web commerce are not always perfect. Distributed ledgers offer enhanced methods for correct identification along with the scope for digitizing personal documents. Having a secure identity is also essential for any on line interactions, especially, in the sharing economy.
- **AML and KYC:** Anti-money laundering (AML) and Know – your- Customer (KYC) have a strong potential for being adapted to the block chain. Currently, financial institution must perform a labour intensive multi step process for each new customer. KYC costs should be reduced through cross institution client verification and at the same time increase monitoring and analysis effectiveness.
- **Data Management:** Today, in exchange for their personal data people can use social media platforms for free. In future, the users will have the ability to manage and sell the data to generate on line activity. Because it can be easily distributed in small fractional amounts, Bitcoin , or something like it , will most likely be the currency that will be used for this type of transactions.
- **Land Title Registration:** As publicly accessible ledgers , block chain can make all kinds of record keeping more efficient. Property Titles are a case in point. They tend to be susceptible to fraud, costly and labour intensive to administer. Recently, Sweden announced it was experimenting with a block chain application for property titles.
- **Stock Trading:** The potential for added efficiency in share settlement makes a strong case for use of block chain in stock trading. When executed peer to peer, trade confirmations become almost instantaneous. Potentially this means intermediaries, such as, clearing houses, custodians, etc get removed from the process. Many stock and commodities exchanges (namely, Australian Securities Exchange, Frankfurt Stock Exchange ,Japan Exchange Group) over the world are prototyping block chain applications for the services they offer.

Advantages of Block Chain:

- a) **Transparency & Trust:** Block chain offer better transparency compared to existing systems for many industries. Changes are visible to

everyone on the black chain and cannot be altered or deleted. There is also an increased trust between parties, especially, with countries where adequate trust in banking systems and government does not exist.

- b) Security:** Data entered cannot be altered, thus, chances of fraud is significantly minimized. Transactions provide a clear trail, allowing any transaction to be easily investigated and audited.
- c) Reduced Costs:** Transaction could be settled on one shared ledger, reducing the costs of validating, confirming and auditing each transaction across multiple organizations.
- d) Increased Transaction Speed:** The removal of intermediaries and settlement through multiple centralized third party systems allows for increased transaction speed compared to existing systems / processes.
- e) Improved Accuracy:** By greatly removing human element in verification process.

Disadvantages of Block Chain:

- a) Significant technology cost;
- b) History of use in illicit activities;
- c) Susceptibility to being hacked;

Legal Framework for Block Chain:

In India, at the moment, there is no law or policy specifically addressing block chain technology. Since there is little legal authority on how block chain technology will be treated, there is uncertainty in industries on this question. The thinking is that though block chain itself has not caused the regulatory stir, this does not guarantee that a particular application will not.

In view of the above, the President of the Chamber of Digital Commerce, the world's largest trade association representing the block chain industry, and the World Federation of Exchange, the global trade body for exchanges, have called for regulatory clarity over the use of block chain technology for different purposes and applications.

Way Forward for India: Concluding Remarks:

Following the development in the field of Artificial Intelligence (AI) and Block Chain, India can lead the world in this era in the field of Information Technology (IT). Having said that, India needs to improve its IT infrastructure to a considerable extent and there should not be any gap between the technologies available to the Indian professionals with their counterparts in other parts of the world. And as per some reports / media publications, about 50% of India's total workforce has

to be re-skilled over the next five years to catch up with the emerging trend.

AI alone holds a potential to add US \$ 957 billion to the Indian economy by changing the nature of work to create better outcomes for business and society. This may result in an increase in yearly growth rate of Gross Value Added (GVA) by 1.3 percentage points and also boosting the nation's income by almost 15% by 2030. The bottom line of this mission is to penetrate the government services at all levels within the country and making them available to the citizens, who are the key user of the society. The integration of block chain in governance would result in quicker & transparent operational response as well as decision making. The range of application for AI technique in such large scale public endeavours could range from crop insurance schemes, tax fraud detection, detecting subsidy leakages and formulating defence & security strategy.

India at present should focus on the following five sectors to leverage the developments in the field of technology including AI and Block Chain to lead the world :-

- a) Healthcare (Increase access to quality health care);
- b) Agriculture (Increase farm productivity, reduction in wastage and increasing farmer's income);
- c) Education (Increase quality of education);
- d) Transportation (Increase supply chain efficiency as well);
- e) Smart Cities;
- f) Financial services;

CMAs being the professionals behind all major business decisions and the kingpin for monitoring vital operational changes in the world of business, must indeed gear up to the challenge of up skilling and re-skilling their professional acumen towards AI and Block chain technology with due earnest in order to facilitate the adoption, implementation and successful integration of these emerging technologies in industries where they are employed or are associated with whenever the opportunity or necessity arises.

Indeed, the role of CMAs in these emerging areas is extremely promising both from the standpoint of our profession and the industry & economy as well, all the more, as India is getting progressively digitized and India's vast economic activities is gradually expected to transform itself into a digital economy.

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WHY THE FINANCE EXECUTIVES SHOULD HAVE A STRATEGIC PERSPECTIVE?



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Most of the finance executives lack a strategic perspective and therefore limit their contribution systemically to accounting, auditing, taxation & routine banking. Barring a few CFOs, the heads of finance & accounts do not really play a strategic role in building up the organization. Historically the finance curriculum in India was designed to nurture a supportive role in terms of “value - contribution”. This was partly due to the concentration of decision - making power in the hands of an owner’s family and the isolation of Indian economy from the global market. In other words, most of the Indian businesses didn’t face serious uncertainties (both in terms of challenges & opportunities) requiring strategic thinking & innovative experimentation. This resulted in a stereo- type role of a finance executive.

Finance executives started facing the heat of global uncertainties after 1991 when our businesses got exposed to the outside world. Monopolistic advantages, government patronage, consumer innocence, shareholder inactiveness, bankers’ robotic behaviour and simple business models have almost become the stories of the past in last 25 years. Hence

the finance executives are now compelled to think and act strategically, innovatively, proactively & collectively with other functional value - drivers and business associates.

The finance executive will have to connect their role strategically with business growth through innovation & networking, investment in intangible assets & human assets, alterations in business model, experimentations for taking the organization forward & strategic cost management. They will have to play a versatile role of facilitating transactional excellence & entrepreneurial performance. This should obviously require them to understand and practice various new competencies clubbed together as “strategic financial management”.

Finance executive will have to thoroughly understand the strategic plan of their organization & define the vast scope of their possible contribution. They should participate in every strategic formulation. This requires them to appreciate the projected milestones of the future life - cycle of the organization. They must work closely with other functions to convert cost centres into profit centres & profit centres into investment centres. This will certainly require them to develop a “financial

measurement system” to be used across the business verticals & functional divisions.

Finance executive will have to indulge in “financial innovation” leading to new & vibrant financial products, business valuation taking care of intellectual assets, market - based changes in the value - chain, capital structures taking care of long-term business adventures etc. While doing so, the finance executives will have to simultaneously justify their conservative role of controlling & rationing financial resources and participating in the entrepreneurial adventurism with other functional associates.

The finance executive to develop a strategic perspective, will have to substantially understand “enterprise economics” along with “macro-economics”. He will have to attain a skill of looking at the big business canvas & relate every facet of business with an optimal financial impact. He should view every opportunity of business acquisition, amalgamation, merger, collaboration & joint venture comprehensively for creating wealth sustainably. He must strategize his every move in an equitable manner to benefit all the stakeholders judiciously. Of course, this would require him to use his right & left brains with an utmost equilibrium.

His strategic perspective will be challenged the most while balancing between “enterprise governance” & “corporate governance”. Like an astute diplomat, a finance executive will have to lead discussions on contradictions & conflicts and reach amicable solutions which serve the short term financial targets & long-term strategic goals. Like a chess grandmaster he will have to think abstract, absolute & aggregate, before playing his move. He may practice on a chess - machine to sharpen his robotic skills for the initial part of the game but at an advance stage he will have to think innovatively & courageously.

The finance executive will have to define his own “entrepreneurial score card” which should combine his financial acumen with business ideas, risk - taking ability, executional speed, networking skill & an extreme desire of creating wealth for all the stakeholders. The ultimate measurement of his strategic perspective shall be seen through his becoming a business leader in the organization, admired by all!

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‘LIQUIDATOR’ UNDER COMPANIES ACT, 2013 & INSOLVENCY BANKRUPTCY CODE, 2016



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Earlier, it was only High Courts which were empowered to deal with the issues of winding up of companies in all modes of winding up and it was only “Official Liquidators” who were authorized by the Companies Act to act as Liquidators. With the enactment of Insolvency and Bankruptcy Code, 2016, new systems have been introduced and now there are three authorities who are empowered to wind up/liquidate the companies and two kinds of “Liquidators” who shall act as Liquidators for winding up/liquidation of the Companies. A brief analysis of “Winding up” or “Liquidation” of the companies under the Companies Act, 2013 and Insolvency and Bankruptcy Code, 2016 is made hereunder before discussing about the new system of “Liquidators” that came into vogue.

Till the advent of Insolvency & Bankruptcy Code, 2016, (IBC, 2016), winding up or Liquidation of companies was completely under the purview of the erstwhile Companies Act, 1956 and later Companies Act, 2013. However, with the enactment of IBC, 2016, a company can be now wound up either under the Companies Act, 2013 or under IBC, 2016. Sections

230-231 and 270-365 of the Companies Act, 2013, and Sections 33 to 54 and Section 59 of IBC, 2016 deal with the issue of winding up of the companies though the term “Liquidation” has been used under the IBC, 2016 for winding up of the company.

Earlier, it was the Companies Act which alone dealt with the issues from incorporation to dissolution of the companies. The Companies Act, 1956 provided for three modes of winding up of companies, namely :

1. Winding up by the Court or Compulsory winding up
2. Voluntary winding up..
3. Winding up subject to the supervision of the Court.

The issue of “inability to pay debts” was one of the modes of winding up by the court. In this mode, if after receipt of the 21 days statutory notice, if the company failed and neglected to pay its debts, the company was deemed to be insolvent and the winding up proceedings would commence.

The revised Companies Act, 2013 had the same provisions as of the Companies Act, 1956 with regard

to the winding up of companies till the enactment of Insolvency & Bankruptcy Code, 2016.

Section 271 of the Companies Act, 2013 has been amended by Section 245 of the IBC, 2016 and new grounds for winding up of the company have been introduced while completely taking away the provisions of winding up for “inability to pay debts” by shifting them to the IBC, 2016. Presently, Section 271 of the Companies Act, 2013 provides for the following circumstances under which a company could be wound up :

1. If the Company has, by special resolution, resolved that the company be wound up by the Tribunal.
2. If the Company has acted against the interest of the sovereignty and integrity of India, the security of the State, friendly relations with foreign states, public order, decency or morality.
3. If on an application made by the Registrar or any other person authorized by the Central Government by notification under this Act, the Tribunal is of the opinion that the affairs of the Company have been conducted in a fraudulent manner or the Company was formed for fraudulent and unlawful purpose or the persons concerned in the formation or management of its affairs have been guilty of fraud, misfeasance or misconduct in connection therewith and that it is proper that the company be wound up.
4. If the Company has made a default in filing with the Registrar its financial statements or annual returns for immediately preceding five consecutive financial years; or
5. If the Tribunal is of the opinion that it is just and equitable that the company should be wound up.

Under the Companies Act, 2013, in a case of a situation arising under Section 271(b), Central and State Governments have also been empowered to file the Petition for winding up of the Company. The elaborate discussion contained in Sections 304-323 under Part II, i.e., “Voluntary winding up” has been omitted, apparently, since the Section 271 and Section 10 of the IBC themselves enabled the Companies to apply for winding up and/or resolution respectively.

JURISDICTION OF THE COURTS FOR WINDING UP OF THE COMPANIES :-

Under the Companies Act, 1956, it was the High Court which had been vested with the jurisdiction to deal with winding up matters. The repealed Sick Industrial Companies (Special Provisions) Act, 1985 had provided that the Board for Industrial Reconstruction and Rehabilitation (BIFR) could recommend winding up of a Company though it was not binding on the Company Court (High Court).

Presently, jurisdiction to pass orders for winding up under Section 271 of the Companies Act, 2013 and winding up under the provisions of IBC, 2016 has been vested in the National Company Law Tribunals (NCLTs) established across the country which are constituted under Section 408 of the Companies Act, 2013. The Central Government also has been empowered to wind up the companies under Section 359-365 which is discussed hereunder.

Section 231 of the Companies Act provides that if the Compromise or Arrangement sanctioned under Section 230 of the Act cannot be implemented satisfactorily with or without modifications, and the company is unable to pay its debts as per the Scheme, the Tribunal may make an order for winding up the Company which is also similar to Section 33 of the IBC, 2016.

WINDING UP BY CENTRAL GOVERNMENT:

Interestingly, the Companies Act, 2013 empowered Central Government also to exercise the powers of Court/NCLT to wind up the Companies. Sections 359-365 of the Companies Act, 2013 empowered the Central Government to appoint Official Liquidator as Liquidator of the companies whose assets of book value do not exceed Rupees one crore and belong to such class or classes of companies as may be prescribed. These provisions empowered the Central Government to supervise, instead of High Court or NCLT, the winding up proceedings of a Company by appointing Official Liquidators. The Central Government may order the companies under this category to be wound in summary mode and all the powers of the Court/NCLT are exercisable by the Central Government. However, Section 364(4) provides that the Central Government may, at any stage during settlement of claims, if considers necessary, refer the matter to the Tribunal for necessary orders. These are new provisions which were not there in the repealed Companies Act, 1956.

LIQUIDATOR:

Under the earlier regime, an officer called as “Official Liquidator” (OL), appointed by the Central Government, used to be attached to each High Court. Under the scheme of the Companies Act, 1956 (Part VII), in case of a company wound up by the High Court, the OL would become its liquidator (section 449). The court was not empowered to appoint any person other than the OL who were attached to each High Court. All matters relating to winding up of companies were being administered by OLs under the supervision, control and directions of the High Courts. Official Liquidators, Deputy Official Liquidators and Assistant Official Liquidators belonging to Indian Company Law Service (Legal and Accounts branches) were being appointed by the Department of Company

Affairs, Ministry of Law, Justice & Company Affairs depending upon the workload in each office.

On passing of winding up order by the High Court, the OL shall, by virtue of his office, become the liquidator of the company.

The general functions of the Official Liquidator were to administer the assets of the company and distribute thereof among the creditors and discharge his duties as per the directions of the High Court.

However, the system of Official Liquidator did not rise to the occasion. A committee under the chairmanship of Justice Balakrishna Eradi was appointed by the Government of India to study the functioning of the system of Official Liquidator which submitted its report on 31.7.2000 which noted the state of affairs. Some of the excerpts of the report are as under:

“The winding up process is a long drawn affair and before a company is finally dissolved with the sanction of the court, it takes years in obtaining the Statement of Affairs, books of account and records and assets, realisation of debts and sale of assets, settlement of list of creditors and contributories, distribution of assets to creditors, members etc. In the process, substantial corporate assets remained under the control of OLs unrealised and undistributed. Over the years with the growth of corporate sector in India, corporate mortality has also grown and OLs have been over-burdened with a large number of companies, in liquidation, under their charge.”

The Advisory Committee on Financial Sector Assessment, appointed by the Government of India in the year 2009 reviewed the structure and functions of official liquidators and also noted various critical remarks of the functioning of the institution by Justice Eradi Committee. The Advisory Group was of the same opinion with that of the Justice Eradi Committee in so far as recommending that knowledge based specialized professional institutions were required to handle bankruptcy cases. It also noted that while there was no professional institution developed for handling bankruptcy cases it was quite possible to develop institutions with experts taken from Chartered Accountant firms, financial institutions, corporate law firms, company secretaries, financial analysts and other professionals. It had further noted that in the present system of liquidation, it was found that official liquidators not only suffered from absence of specialised knowledge but also they do suffer from absence of infrastructure.

As per section 449, on a winding up order being made in respect of a company, the OL shall, by virtue of his office, become the liquidator of the company. The court had no power to appoint any person as liquidator other than the OL. A suggestion was, therefore, made by the Committee as to whether the present system of

appointing OLs should continue or should the court in the alternative appoint private liquidators; if so, what should be the qualifications, terms and conditions of such appointment.

A majority of the responses to the said Committee had supported the suggestion to empower the court to appoint private liquidators who are professionals like Advocates, Chartered Accountants, Company Secretaries etc. having adequate practicing experience with suitable infrastructure. Such professionals may also be required to pass a qualifying examination. It was also suggested that the private liquidator may be a partnership firm or even a body corporate with professionals and this would require amendment to section 513 (of the Companies Act, 1956). Such appointments should be made taking into account the value of assets involved, guarantee provided by private liquidator and his expertise. Such private liquidators be drawn from a panel approved by the Central Government and/or the High Courts. On the other hand, the idea of appointment of private liquidators was opposed on the ground that this concept was fraught with danger in the absence of their accountability, continuity and responsibility and will not take off without proper infrastructure with them.

It appears that in line with the recommendations of the Committee, Section 275 (2) of the Companies Act, 2013 had originally provided that the provisional liquidator or the Company Liquidator, as the case may be, shall be appointed from a panel maintained by the Central Government consisting of the names of Chartered Accountants, Advocates, Company Secretaries, Cost Accountants, or firms or bodies corporate of persons having such chartered accountants, advocates, company secretaries, cost accountants and such other professionals as may be notified by the Central Government or from a firm or a body corporate of persons having a combination matters of such professionals as may be prescribed and having at least ten years' experience in company matters.

However, the said provision was substituted, w.e.f. 15.11.2016, by IBC, 2016, with the following provisions:

1. For the purposes of winding up of a company by the Tribunal, the Tribunal shall, at the time of passing of the order of winding up, appoint an Official Liquidator or a liquidator from the panel maintained under sub-section (2) as the Company Liquidator.
2. “The provisional liquidator or the Company Liquidator, as the case may, shall be appointed by the Tribunal from amongst the Insolvency Professionals registered under the Insolvency and Bankruptcy Code, 2016”.

Therefore, the system of Official Liquidators of the earlier regime has not been completely done away with

under the Companies Act, 2013. However, there is no such provision under the IBC, 2016 for appointment of Official Liquidators as Liquidators of the companies.

The expression “Insolvency Professional” is defined under Section 3(19) of the IBC, 2016 as under:

““insolvency professional” means a person enrolled under section 206 with an insolvency professional agency as its member and registered with the Board (Insolvency & Bankruptcy Board of India, established under the IBC, 2016) as an insolvency professional under section 207”.

Regulation 5 of Insolvency and Bankruptcy Board of India (Insolvency Professionals) Regulations, 2016, provides that a person is eligible to register himself as an Insolvency Professional if he – (a) has passed the Limited Insolvency Examination within twelve months before the date of his application for enrolment with the insolvency professional agency; (b) has completed a pre-registration educational course, as may be required by the Board, from an insolvency professional agency after his enrolment as a professional member; and (c) has- (i) successfully completed the National Insolvency Programme, as may be approved by the Board; (ii) successfully completed the Graduate Insolvency Programme, as may approved by the Board; (iii) fifteen years’ of experience in management, after receiving a Bachelor’s degree from a university established or recognised by law; or (iv) ten years’ of experience as – (a) chartered accountant registered as a member of the Institute of Chartered Accountants of India, (b) company secretary registered as a member of the Institute of Company Secretaries of India, (c) cost accountant registered as a member of the Institute of Cost Accountants of India, or (d) advocate enrolled with the Bar Council of India

Section 2(94A) of the Companies Act, 2013 defined the expression “Winding up” as under:

“Winding up” means winding up under this Act or liquidation under the Insolvency and Bankruptcy Code, 2016 as applicable”.

However, IBC, 2016 did not define either the expression “Winding up” or “Liquidation”. Section 5(18) of IBC, 2016, however, defines the expression “Liquidator” as under:

“Liquidator” means an insolvency professional appointed as a liquidator in accordance with the provisions of Chapter III or Chapter V of this part, as the case may be”. Regulation 3(1) of the Insolvency and Bankruptcy Board of India (Liquidation Process) Regulations, 2016 further describes the eligibility to be appointed as Liquidator for the purpose of liquidation of companies under IBC, 2016 as under:

“Eligibility for appointment as liquidator. (1) An insolvency professional shall be eligible to be appointed as a liquidator if he, and every partner

or director of the insolvency professional entity of which he is a partner or director, is independent of the corporate debtor. Explanation— A person shall be considered independent of the corporate debtor, if he- (a) is eligible to be appointed as an independent director on the board of the corporate debtor under section 149 of the Companies Act, 2013 (18 of 2013), where the corporate debtor is a company; (b) is not a related party of the corporate debtor; or (c) has not been an employee or proprietor or a partner: (i) of a firm of auditors or secretarial auditors or cost auditors of the corporate debtor; or (ii) of a legal or a consulting firm, that has or had any transaction with the corporate debtor contributing ten per cent or more of the gross turnover of such firm, in the last three financial years.”

The Companies Act, 2013 still has two definitions for “Liquidator”, namely, “Company Liquidator” and “Official Liquidator”. Section 2(23) defined the expression “Company Liquidator” as under:

“Company Liquidator” means a person appointed by the Tribunal as the Company Liquidator in accordance with the provisions of Section 275 for the winding up of a Company under this Act.

The expression “Company Liquidator” was not there in the repealed Companies Act, 1956 and was newly introduced by the Companies Act, 2013 for the first time.

Section 2(61) of defines “Official Liquidator” as under:

“Official Liquidator” means an Official Liquidator appointed under sub-section (1) of Section 359”.

LIQUIDATORS UNDER SECTIONS 275 & 359 OF THE COMPANIES ACT, 2013

As we discussed hereinabove, now there are two authorities for winding up of the Companies under Companies Act, 2013, one by the NCLT for winding up of Companies under the provisions of Sections 272-358, and by the Central Government under the provisions of Sections 359-365. It is the “Company Liquidator” who acts Liquidator for winding up of the companies by the NCLT whereas it is the Official Liquidator” who acts as Liquidator for winding up of Companies by the Central Government.

Sections 359-365 have been newly introduced in Companies Act, 2013, which were notified by notification No. 3677(E), dated 7.12.2016, and came into force from 15.12.2016.

Under IBC, 2016, it is only the Insolvency Professionals who can be appointed as Liquidators. The IBC, 2016 provides for appointment of Insolvency Professionals both as Interim Resolution Professional/Resolution Professional and Liquidator. The Insolvency Professional who was appointed as Resolution Professional shall be generally appointed as

Liquidator whereas, under the Companies Act, 2013, it is either the Company Liquidator, who is an Insolvency Professional or Official Liquidator, who is an Officer of the Central Government, acts as Liquidator.

FEE OF THE LIQUIDATOR:

In the earlier system, the Official Liquidators were being appointed by the Central Government who were in the service of the Government. It was the Central Government which was being paid a fee out of the assets of the company for the services of Official Liquidator. Section 34 (8) of the Insolvency & Bankruptcy Code, 2016, an Insolvency Professional proposed to be appointed as a Liquidator shall charge such fee for the conduct of the liquidation proceedings in such proportion to the value of the liquidation estate assets as may be specified by the Insolvency and Bankruptcy Board of India (IBBI) which is established under the IBC, 2016. As per Section 34(9) of the Code, the fee for conduct of the liquidation proceedings shall be paid to the liquidator from the proceeds of the liquidation estate.

As per Regulation 4(1) of the IBBI (Liquidation Process) Regulations, 2016, the fee payable to the liquidator shall be in accordance with the decision taken by the Committee of Creditors. As per Regulation 4(2),

in all other cases, the liquidator shall be entitled to a fee (a) at the same rate as the Resolution Professional was entitled during CIRP and as a percentage of the amount realized net of other liquidation costs and of the amount distributed, for the balance period of liquidation.

In respect of the liquidation under Companies Act, 2013, Section 275 (5) of the Act provides that the terms and conditions of appointment of a provisional liquidator or Company Liquidator and the fee payable to him or it shall be specified by the Tribunal on the basis of task required to be performed, experience, qualification of such liquidator and size of the company.

CONCLUSION

Therefore, the system of liquidation/liquidators has completely been overhauled and it is hoped that the liquidation proceedings are completed within one year as envisaged both under the Companies Act, 2013 and IBC, 2016.

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Industry Focus - Oil & Gas Industry in India

Introduction

The oil and gas sector is among the eight core industries in India and plays a major role in influencing decision making for all the other important sections of the economy.

India's economic growth is closely related to energy demand; therefore, the need for oil and gas is projected to grow more, thereby making the sector quite conducive for investment.

The Government of India has adopted several policies to fulfill the increasing demand. The government has allowed 100 per cent Foreign Direct Investment (FDI) in many segments of the sector, including natural gas, petroleum products, and refineries, among others. Today, it attracts both domestic and foreign investment, as attested by the presence of Reliance Industries Ltd (RIL) and Cairn India.

India had 4.5 thousand million barrels of proven oil reserves at the end of 2018 and produced 39.5 million tonnes in 2018. As of Apr 01, 2019, India had a network of 10,419 km of crude pipeline having a capacity of 145.6 mmpa.

Market size

India is expected to be one of the largest contributors to non-OECD petroleum consumption growth globally. Oil imports rose sharply to US\$ 87.37 billion in 2017-18 from US\$ 70.72 billion in 2016-17. India retained its spot as the third largest consumer of oil in the world in 2017 with consumption of 4.69 mbpd of oil in 2017, compared to 4.56 mbpd in 2016.

As of December 1, 2019, the oil refining capacity of India stood at 238.60 million tonnes, making it the second largest refiner in Asia. Private companies own about 35.36 per cent of the total refining capacity.

India was the fourth-largest Liquefied Natural Gas (LNG) importer in 2017 after Japan, South Korea and China. LNG imports increased to 26.11 bcm in 2017-18 from 24.48 bcm in 2016-17. India's LNG imports stood at 27.43 billion cubic meters (bcm) during April 2019-January 2020.

Gas pipeline infrastructure in the country stood at 16,226 km at the beginning of February 2019.

India's domestic crude oil production in July 2019 is 2,769 thousand tonne (TMT). As of 2017, the country had 600 million metric tonnes (MMT) of proven oil reserves.

In FY19, total crude oil imports were valued at US\$ 111.96 billion as compared to US\$ 87.70 billion in FY18. In FY19, crude oil imports increased to 4.53

mbpd from 4.41 mbpd in FY18.

Production of petroleum products by fractionators grew to 4,931.22 tmt in FY19 from 4,808.00 tmt in FY18 and reached 3,179 TMT in FY20 (till November 2019)

Investments

According to data released by the Department for Promotion of Industry and Internal Trade Policy (DPIIT), the petroleum and natural gas sector attracted FDI worth US\$ 7.07 billion between April 2000 and December 2019.

Following are some of the major investments and developments in the oil and gas sector:

- In March 2020, Indian Oil Corp (IOC) has begun the supply of the world's cleanest petrol and diesel across the country with all its 28,000 petrol pumps dispensing ultra-low sulphur fuel a good two weeks before the April 1 deadline.
- Indian Oil Corporation (IOC), plans to invest Rs 500 crore (US\$ 71.54 million) at Chitradurga in Karnataka.
- ExxonMobil and ONGC signed a Memorandum of Understanding (MoU) for offshore blocks.
- Oil and Natural Gas Corporation (ONGC) has raised US\$ 300 million under the External Commercial Borrowing route.
- In December 2019, INDMAX refining technology owned by Indian Oil Corporation Limited's (IOCL's) has been licensed to Naftna Industrija Srbije (NIS) of Serbia.
- In November 2019, winter-grade diesel suitable for extreme winters launched.
- MOU signed between NSIC & ARAMCO Asia for development in Oil & Gas Sectors.
- Foreign investors will have opportunities to invest in projects worth US\$ 300 billion in India, as the country looks to cut reliance on oil imports by 10 per cent by 2022, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India.
- Oil and Natural Gas Corporation (ONGC) is going to invest Rs 17,615 crore (US\$ 2.73 billion) on drilling oil and gas wells in 2018-19.
- As of March 2019, Brookfield is going to acquire Reliance Gas Transportation Infrastructure, now known as East West Pipeline (EWPL) for Rs 13,000 crore (US\$ 1.80 billion).

Government Initiatives

Some of the major initiatives taken by the Government of India to promote oil and gas sector are:

- As per Union Budget 2019-20, Indian Scheme 'Kayakave Kailasa', the Ministry of Petroleum & Natural Gas has enabled SC/ST entrepreneurs in providing Bulk LPG Transportation. State run energy firms Bharat Petroleum, Hindustan Petroleum and Indian Oil Corp plan to spend US\$ 20 billion on refinery expansions to add units, by 2022.
- The Government of India is planning to set up around 5,000 compressed biogas (CBG) plants by 2023.
- The government is planning to invest US\$ 2.86 billion in the upstream oil and gas production to double the natural gas production to 60 bcm and drill more than 120 exploration wells by 2022.
- Government of India is planning to invest Rs 70,000 crore (US\$ 9.97 billion) to expand the gas pipeline network across the country.
- In September 2018, Government of India approved fiscal incentives to attract investments and technology to improve recovery from oil fields which is expected to lead to hydrocarbon production worth Rs 50 lakh crore (US\$ 745.82 billion) in the next twenty years.
- State-run oil firms are planning investments worth Rs 723 crore (US\$ 111.30 million) in Uttar Pradesh to improve the liquefied petroleum gas (LPG) infrastructure in a bid to promote clean energy and generate employment, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India.
- A gas exchange is planned in order to bring market-driven pricing in the energy market of India and the proposal for the same is ready to be taken to the Union Cabinet, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India.
- The Oil Ministry plans to set up bio-CNG (compressed natural gas) plants and allied infrastructure at a cost of Rs 7,000 crore (US\$ 1.10 billion) to promote the use of clean fuel.



Achievements

Following are the achievements of the government during 2018:

- The energy trade between India and US is likely to touch US\$ 10 billion in the financial year 2019-20.
- As on September 01, 2019, Gas Authority of India Ltd. (GAIL) has largest share (69.90 per cent or 11,411 km) of the country's natural gas pipeline network (16,324 km)
- As of Oct 1, 2019 (P), there were 24,127 LPG distributors (of PSUs) in India.
 - The total number of OMC retail outlets increased to 65,973 at the start of October 2019 (P) from 59,595 at the end of FY17.
 - Under City Gas Distribution (CGD) network, 86 Geographical Areas constituting 174 districts in 22 States/ Union Territories are covered
 - As of June 2019, more than 7.23 crore connections have been released under Pradhan Mantri Ujjwala Yojana (PMUY)

Road Ahead

Energy demand of India is anticipated to grow faster than energy demand of all major economies, on the back of continuous robust economic growth. India's energy demand is expected to double to 1,516 Mtoe by 2035 from 753.7 Mtoe in 2017. Moreover, the country's share in global primary energy consumption is projected to increase by 2-folds by 2035.

Crude oil consumption is expected to grow at a CAGR of 3.60 per cent to 500 million tonnes by 2040 from 221.76 million tonnes in 2017.

Natural Gas consumption is forecasted to increase at a CAGR of 4.31 per cent to 143.08 million tonnes by 2040 from 54.20 million tonnes in 2017.

Diesel demand in India is expected to double to 163 million tonnes (MT) by 2029-30.

References:

Media Reports, Press Releases, Press Information Bureau, IBEF, Ministry of Petroleum and Natural Gas, Petroleum Planning and Analysis Cell, BP Energy outlook, News Articles, International Energy Agency

Disclaimer: This information has been collected through secondary research and the Institute is not responsible for any errors in the same.

INDUSTRY NEWS

Indian Pharma Exports Hit US\$ 19.14 Bn, Report Double-Digit Growth after 3 Yrs

Pharmaceutical Export Promotion Council (Pharmexcil)'s year-end report has pegged the total pharma exports from India at \$19.14 billion for 2018-19 with a growth of 10.72 per cent over \$17.28 billion in pharma exports last year.

The double-digit growth has returned to pharma exports after three years of flat-to-marginal export growth, driven by formulations exports to North America among other destinations, according to the report.

Indian pharma exports registered a double digit growth of 10.17 per cent at \$16.89 billion last time in 2015-16. Giving a performance break-up of individual categories within the pharma segment, the Union Commerce Ministry's nodal agency said that the export of drug formulations and biologicals, which grew at 12.13 per cent, alone added close to \$1.5 billion to the total pharma export revenues this time around.

With a total contribution of \$13.56 billion, formulations accounted for 70.87 per cent of the total pharma exports in the year 2018-19, according to data. "India exports only generic formulations and global generics market growth in 2018 calendar year is reported to have grown at just over 5 per cent while India's export of this category is growing 2.2 times faster than the market," Pharmexcil said. Exports of formulations through the year has done well except in the month of December, 2018, and the average exports of formulations during the year has touched \$1.14 billion a month, according to the report.

The only category of pharmaceuticals that showed a negative growth in exports this time was herbal products, exports of which stood at \$299 million as compared to \$312 million in the previous year. Bulk drugs and drug intermediates, which is next big

category of exports after formulations, grew at 10.48 per cent to reach \$3.9 billion as compared to \$3.5 billion last year. Export of vaccines and surgical grew 1.31 per cent and 3.19 per cent at \$661.93 million and \$569.77 million respectively in 2018-19.

Quoting the Director General Commercial Intelligence and Statistics (GGCIS) data for the month of February 2019, the pharmaceutical agency maintained that the price erosion was beginning to plateau and recovery in margins was seen in the US. The top 25 export destinations contribute 76.52 per cent of the formulation exports amounting to \$10.38 billion. Among these, the US continues to be the largest export destination with over 38.62 per cent of the total generic exports to that country at \$5.24 billion.

Of the total 1638 market authorisations granted by the US Food and Drug Administration (US FDA) in the year 2018, Indian companies alone got 538 authorisations (product approvals) and many of these products have six or more companies competing. Indian companies need to file complex generic applications and also of biosimilars to steer away from intense competition and look for higher margins. Biocon has already made a beginning in biosimilars.

References: Compilation from various reports such as Business Standard, IBEF and other media



INDUSTRY NEWS

India's EV Industry likely to see higher interest from PE, VC Investors

The country's electric vehicle (EV) industry is expected to see higher interest from private equity and venture capital (PE, VC) investors. Venture Intelligence, that tracks these things, says PE, VC investment in the EV space was \$23 million (~160 crore) in 2018, in two deals, compared to \$3 million (~21 crore) from three deals in 2017. The 2018 money was led by Alpha Capital and others investing around \$22 million in Hero Electric last December.

There were other notable investments. Twenty Two Motors raised \$65 million from Kwang Yang Motor in October 2018; Hero MotoCorp invested \$19 million into Ather Energy in July. Also, in 2016, Hero invested \$31 million in Ather Energy, says Venture Intelligence. In March 2015, around \$12 million was infused by Tiger Global into Ather Energy. S Gopalakrishnan and others invested around \$1 million in Ampere Vehicles, which later saw a major share acquired by Greaves Cotton.

In 2019 till date, PE, VC investment in the sector has been \$300,000 (~2.1 crore), in one deal. Tarun Mehta, co-founder at Ather Energy, said when they started, it was difficult for product-led start-ups to raise investments. The requirement of a lot of upfront capital expenditure in the initial stages, products' long journey from conception to market readiness, and absence of immediate return on investment proved detrimental.

However, in the recent past, the government's support and incumbents' active interest in the EV ecosystem has bolstered consumer interest. Firm business plans, the long-term outlook for electrification of mobility and increased investment in the industry has reinforced PE, VC faith in the growth potential. "We believe there is mass awareness about opportunities in the EV industry and that has primarily contributed to simplification of the fund-raising process," said Mehta. Ather is investing in improving its products and Ather Grid, its charging eco-system, is working on

expanding to 30 cities in a couple of years, he said.

Initially, the investments would be more towards usage in shared services and logistics, rather than private vehicles, as it would make business sense to investors, say both investors and consultants. Original equipment makers (OEMs) might be looking at investing in end-to-end solution providers such as Ather Energy or Ampere Vehicles. However, VC investments might need time to pick up here, since identifying a solution and the start of manufacturing could need larger investment. A second round of funding would be critical. "It is too early for the investment community to make large bets on that, though there are exceptions.

There could be a lot of smaller investment in a larger number of sub-system kind of companies. The larger bet seems to be from existing OEMs and such players into end-to-end players. VC money will follow that," said Anand Ganapathy Chennira, chief operating officer of Micelio Fund. This is a seed fund focused solely on clean mobility, led

by Shreyas Shibulal, son of Infosys co-founder S D Shibulal.

Micelio, with a corpus of ~140 crore, also has a discovery studio along with works on a last-mile logistics business. It is interested in investing in sub-systems as part of larger solutions, such as motor technology, powertrain and electric parts or firms that have a lot of intellectual property on a particular area. It is more focused on the impact the investment can create; return on investment is not the most important thing, he said. Electric two-wheelers would be a particular attraction for investors, said Aswin Kumar, programme manager for the mobility practice at Frost & Sullivan. "Shared e-scooter service providers across the world got \$4 billion funding during 2017-18. The entire PE focus will shift towards India and they will cast their nets as widely as possible and invest in start-ups that have promising technology, to see if we can have a Tesla for two-wheelers in India, another unicorn for the market. The only thing they would



look at is whether they have a scalable model to reach at least 10-15 per cent of the potential,” he said. An earlier report by Asian Venture Philanthropy Network India and IIM-Ahmedabad’s Centre for Innovation Incubation and Entrepreneurship, in collaboration with Shell Foundation, detailed the challenge in attracting investment. Such as the lack of policy support, a weak eco-system and charging infra for EVs, lack of synergy with the power sector, possible backlash from the auto sector and competition from the international market. According to the Automotive Component Manufacturers Association, the ICE powertrain contributes to 60 per cent of employment generation in their sector. A full switch to EVs could impact up to 5.6 million jobs by 2025-26, it said. However, the potential is huge in the segment, it said.

“NITI Aayog predicts India’s vision of mass conversion to EVs can create a \$300 billion potential domestic market for EV batteries by 2030. This could be around two-fifth of global battery demand and 25-40 per cent of this market can be captured through ‘Make in India’, aimed at encouraging manufacturing and attracting foreign investment to India. Apart from government and corporate funding, VC funding hasn’t

got any successes in this space,” says the report. The government’s recent announcement of Faster Adoption and Manufacturing of Electric (FAME-II), to take effect from this April has lack of clarity but once the business model and government policies are in place, there will be more PE activity in the sector, said Kumar. “Regulatory uncertainty is probably to come to an end soon but we do not see that as a big challenge because the OEMs themselves will fill the space,” he added. Last week, TVS Motor announced it had acquired a minority stake in a US-based industrial Internet of Things (IoT) firm, Altizon and Altizon Systems. It invested \$2.5 million. Altizon helps enterprises use machine data to drive business decisions, beside helping on digital transformation and new models for service delivery. “We will,” said TVS Motor, “utilise the strong roster of global industrial majors who are customers of Altizon and gain from enhanced technology offerings.”

References: Compilation from various reports such as Business Standard, IBEF and other media



INDUSTRY NEWS

Byju's: Reinventing Education

Byju's - The Learning app, known for its unconventional and practical methods of teaching, has grown rapidly over the years. The goal of the app was to make learning accessible, effective, engaging, and personalised for everyone. It initially started in 2011 in Bengaluru with a focus on K-12 (students in classes 4-12) and launched its eponymous flagship product in August 2015. Byju's creates personalised learning journeys for individual students based on their proficiency levels and capabilities, which help them learn at their own pace and style. Byju's adopted an online mode because children are primarily visual learners and learning through visual representations is exciting and easier for them. Also, as the country becomes more tech-savvy, people are getting more inclined towards education apps and parents are opening up to technology-backed learning. According to a recent report, out of 2,000

users surveyed, about 89 per cent were in favour of online learning.

Byju's has been growing 100 per cent year-on-year for the past three years. The company had a revenue of Rs 520 crore (US\$ 73.00 million) in 2017-18 and is targeting to triple revenue to Rs 1,400 crore (US\$ 196.53 million) this financial year. The company is planning to build a product for the international market and K-3 (1st, 2nd and 3rd grade) segment. Its recent acquisition of Osmo, the US based playful learning system, will help in offering customised, engaging and fun learning for younger kids. Byju's can effectively capitalise from changing mind-sets and developments in the country.

References: Compilation from various reports such as Business Standard, IBEF and other media





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