DELTA

ENVISIONING CHANGE

| Ease of Algorithmic Trading
| Chatbots are Revolutionizing
| The Intensifying Harmony Between Finance And Technology

A Magazine by Finance Forum

FINANCE & TECHNOLOGY

From
The Desk of The H.O.D (Finance)

DELTA
ENVISIONING CHANGE
A Magazine by Finance Forum

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Whichever analysis one goes by, Covid-19 pandemic has thrown all calculations, all estimates across countries, to.tally off gear. As countries across the globe grappled with the enormity of the disease and the destruction it caused in its wake, it has made clear the importance of disseminating knowledge across borders, companies, and all parts of society. If online learning technology can play a role here, it is incumbent upon all of us to explore its full potential. For certain this academic year has not been an easy one, neither for academic institutions nor for the students. The outbreak has taught us that change is inevitable. It has worked as a catalyst for the educational

institutions to grow and opt for platforms with technologies, which have not been used before. The education sector has been fighting to survive the crises with a different approach and digitising the challenges to wash away the threat of the pandemic. Keeping in mind the challenges of online learning, student's community has been successful in grabbing this opportunity not only with an open mind but also with enormous enthusiasm.

With the release of the 23rd edition of our institute's prestigious Delta Magazine on 13th February, 2021on the occasion of Vishleshan, the students have once again proven that no matter the number of challenges, their perseverance will always win. On behalf of my entire Finance area team of learned colleagues.I would like to congratulate Team Delta (Finance Forum) for putting together this excellent E-edition of the Magazine. I'm sure that the theme for this year and edition – 'Finance and Technology' – will help our readers acquaint themselves with the latest developments in the field of Finance and how our traditional approaches are being taken over by newer and more innovative ones. The magazine gives our students a platform to share their views and ideas in a manner that provides them with a comprehensive exposure. Thanks for your understanding and patience, keep maintaining social distance, washing your hands and not lowering the guards in our fight against the pandemic so soon —we'll see you next year.

Best wishes,

Dr.Tarun Agarwal
Professor, Head of Department- Finance- PGDM

Ph.D., MBA, FCMA, PGDHR&IR, PGDFPM, DM (USA)

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MULYANKAN 2020

N. L. Dalmia
Institute of Management Studies and Research

The Indian Debt Market Conundrum

A National Level B-School Paper Presentation Competition

Date: Friday, 23 October 2020
Time: 02:00 PM to 6:00 PM

From

Editorial

We want to express our sincerest gratitude to all those who have contributed to develop the 23nd Edition of DELTA. The young and brilliant students, respected faculty members, and Marketing Team.

Our heartfelt gratitude to and Prof. Khushboo Vora and Dr. Tarun Agarwal for their immense support and assistance in making this magazine a success. Special Acknowledgements to Dr. Jyoti Nair and Prof. Yogesh Bhawnani for reviewing and shortlisting the articles.

This magazine is about everything knowledgeable what upcoming leaders in the finance industry should read. We hope that the readers find this issue interesting and enriching. We have tried to give importance to each and every category respectfully. We strive to live up to our expectation each and every time.

Meet the
EditorialTeam

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Articles

TECHNOLOGY CHANGING LIVES THROUGH BANKING IN THE NEW DIGITAL AGE

Banking always rings bells of three aspects i.e., Trust, Speed and Safety (THE CORE OF BANKING). Also, it would not be wrong to say that almost all the banking complex products and services have been drawn from the four basic needs of any human being i.e., Savings, Credit, Insurance and Remittances. Strongly feel that technology (especially, the digitization piece), will continue to evolve and revolve around the above mantras.

Change in whatever format has always given rise to both risks and opportunities. With increasing digitization changes will continue to come and enhance the consumer experience. Now, it is up to the consumers to understand as to how fast and to what extent they want to adapt them. Tie is short and the push is hard. Needless to mention that exponential growth of E-commerce is continuing to lead the exponential growth of digitization and vis-a'-versa too stands true. Rural markets are becoming more important with digitization finding more space to experiment and permeate faster. This has thus, helped in achieving inclusion in the hinterland to a greater .extent Data, agility and experience are the new playgrounds with connect, transact and engage the new buzz words. Identity seems to be the future money and trust the new currency. New currency may also include crypto and pie (the mathematics one). All of them seem to be becoming fast the order of the day. Magnitude of change will depend on the openness of Banking. As the race to top gets fierce in the industry, some trends are clear like; sun is definitely going to set on Branch banking soon, lines between offline and online banking are going to diminish, 'Phygital' shall be the new face with NFC (Near Field Communication) taking over, data being the new

gold – much throttled effect among technology vs risk Vs regulation keeping the consumer behavior in mind would be visible, Neo banks germination shall be initiated, this changing the baking gear to new buzz words – automate, aggregate, orchestrate and validate.

Future of Commercial Banking :

a) Everything and everyone shall be connected

b) Artificial Intelligence (AI), shall power mass personalization of products and services into one platform; say a 'super app'

c) Every engagement point of our lives will become a service etc.

Conclusion:

In conclusion, together, what we shall see in the space of banking and digitization shall revolve around data, business models, regulation and last but not the least, technology. Off course, above all mentioned shall not work in isolation, but, in moderation and combination, helping build the future of relationships, alliances and smooth provision of banking products and services. Privacy will remain of paramount importance, with consumers being ultimate owners of their data, with banks providing data consent management services. Good, much happier and changed times are keenlyawaited.

By Dr. Tarun Agarwal
(Head of Finance Dept.)

Student
Articles

Deepshikha Yadav
(PGDM Finance, 2020-22)

FUTURE OF BITCOIN DERIVATIVES

A bit of science fiction became a reality with the emergence of cryptocurrencies. Launched in 2009 by anonymous creators under the pseudonym **"Satoshi Nakamoto",** Bitcoin has dominated the landscape as a currency and, more recently, as a derivative product.

This led to the launch of bitcoin futures trading by the Chicago Board Options Exchange (CBOE) and the Chicago Mercantile Exchange (CME) in 2017 owing to the increasing demand among investors and traders. During that time, the phenomenal bull run of the crypto market was nearing its end, one saw bitcoin reach the **$20,000-mark** before prices began dropping wildly at the start of 2018. The market was experiencing significant volatility during this time; the timely introduction of futures contracts allowed traders to hedge their positions and mitigate some of the risks being brought about by those often-violent price swings.

In October last year, with Diginex (EQUOS) becoming the US' first publically traded cryptocurrency derivatives exchange and getting a **"backdoor listing"** on Nasdaq, shows the growing popularity of crypto derivatives is evident.

Utility of Derivatives:

Derivatives play a significant role in financial markets by performing essential functions like, allowing traders to speculate today on future prices of assets without purchasing the underlying asset itself today, saving them from spending as much to gain exposure to the market. Derivative instruments such as futures, forwards, options and swaps are used as **a hedging tool by the traders** to prevent themselves against the unforeseen market events.

How big is the Market?

As per July's Cryptocurrency Derivatives Exchange Industry Report from Tokeninsight (blockchain research company), the trading volume of the cryptocurrency-derivatives market for the second quarter of 2020 **was $2.159 trillion,** based on data from 42 exchanges. It shows a massive year-on- year increase of 165.56 percent from the second quarter of 2019, thus indicating just how exponential the growth in crypto-derivatives has been over the last year. And the market is still expanding. The second week of August recorded interest for bitcoin futures on the CME (regulated by the Commodity Futures Trading Commission) hit an all-time high of $841 million. The recent growth in crypto- derivatives is attributed to increasing interest in institutional investors' space as they seek it as a potential inflation hedge.

To date, Asia is sighted as the global hub for cryptocurrency derivatives with the most actively traded exchanges based in this region, particularly in Singapore, owing to more liberal cryptocurrency regulation than in most places. **OKEx, Huobi, and Binance** are some of the leading Asia-based exchanges which are already
experiencing consistently higher trading volumes in their derivatives markets than in their respective spot markets.
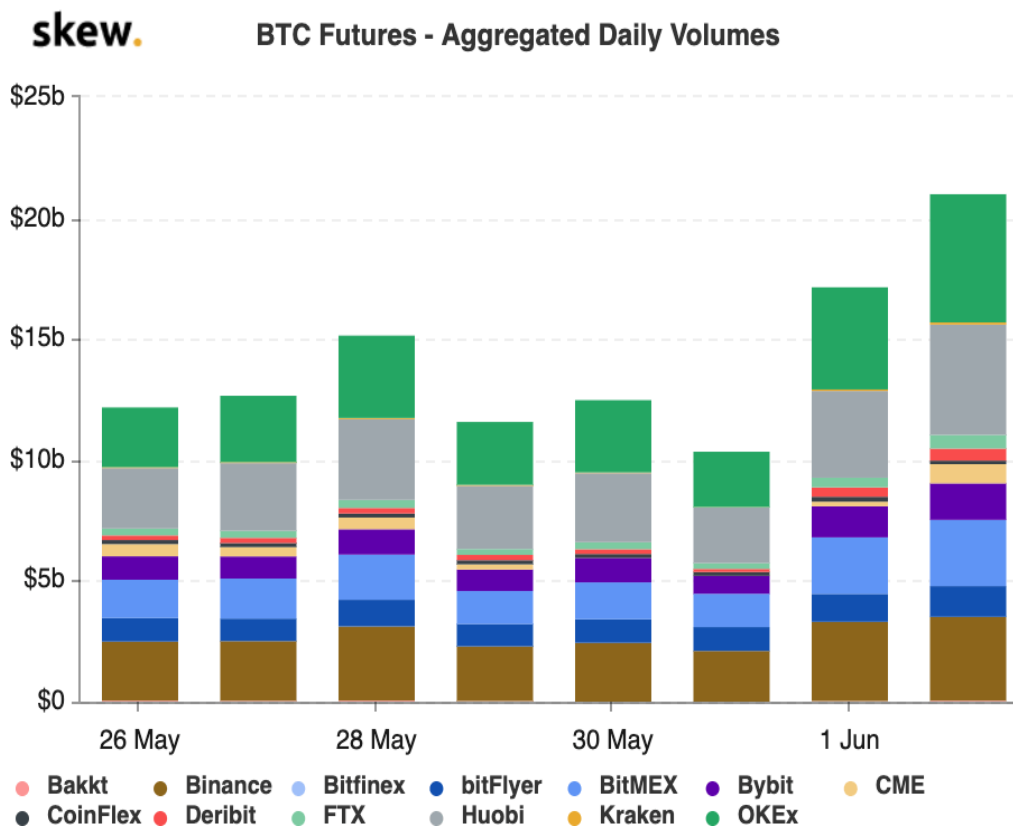
Source: Skew

While other derivative products such as swaps and options that are not as liquid as futures are also indicating substantial growth. However, for options, the market remains relatively nascent—CME's bitcoin options market just launched in January 2020. Nonetheless, in late June, CME's open interest managed to hit $440 million. Moreover, **the rapid growth and anonymity** of bitcoin and **other cryptocurrencies present challenges.**

To save retail investors from the risk of suffering sudden and unexpected losses, on 6th January this year, UK's Financial Conduct Authority has banned the sale of derivatives and Exchange Traded Notes to retail customers. FCA considers these products to be ill-suited for retail consumers due to the harm they pose owing to the unique characteristics of the underlying assets and extreme volatility in prices, which means they have no reliable basis for valuation

Conclusion

As the inherent functions of crypto derivatives continue to consistently prove useful to crypto traders—namely, speculation and hedging—the justification for staying away from the space becomes consistently weaker. As the biggest players are now entering the space, it seems that cryptocurrencies are now **attaining the legitimacy and credibility**, which they have so eagerly sought over many years. Moreover, the rapid growth and anonymity of bitcoin and other cryptocurrencies present challenges. Introducing regulations would legitimize bitcoin to a certain extent, which is important given bitcoin's background as an anonymous cryptocurrency.

" The trading volume of the cryptocurrency-derivatives market for the second quarter of 2020 was $2.159 trillion, based on data from 42 exchanges.

Mukul Pandey
(PGDM Finance, 2020-22)

FINTECH: A NEW HOPE FOR AGRICULTURE

Agriculture is the primary source of livelihood for about 58% of India's population. The agricultural sector contributes almost 20% to the national GDP. India is the largest producer, consumer, and exporter of spices in the world. Indian benefits from a large agriculture sector, abundant livestock, and price competitiveness. According to the Department for Promotion of Industry and Internal Trade (DPIIT), accumulative Foreign Direct Investment (FDI) equity inflow of **about Rs. 67,000 crores (US$ 9.08 billion)** were achieved between April 2000 and March 2019 within the agriculture sector alone. However, the sector is affected by several

Challenges of inadequate capital influx and operational gaps being the foremost critical ones. Now think of a scenario where farmers are using a smartphone to access real- time weather updates, measuring the standard of soil, receiving crop's buyer and medium of transport in just one click of a button. The scenario is becoming a reality among the farmers in many small villages and towns. As a result, numerous innovative **AgTechs** are being introduced by many stakeholders creating a revolution in recent years.

AgTechs landscape in India

There are more than 450 Indian start-ups within the AgriTech sector with every 9th start-up featuring in the world originating from India. The sector has been growing at the speed of 25 percent year on year due to the increase in the number of emerging AgriTech start-ups and investments, showcasing interest in the Indian AgriTech start-up domestically and globally. According to NASSCOM, these start-ups attract funding from top investors and had already raised **USD 248 million as of June 2019**, an enormous growth of 300% as compared to the previous year. The overall growth of the AgriTech sector and an increase in average farmers' income by 1.7X in the last decade have enabled farmers to accept and simply try new technologies. Some of the major start-ups within the sector include Ergos, CroFarm, WayCool, Farmpal, Agrowave, INI Farms, Agri10x, and UrbanKisaan.

The AgriTech sector has created methods for several market opportunities in India, particularly in developing and refining market linkages between several stakeholders. These developments embrace taking farmer merchandise on to consumers removing the middlemen from the supply chain, use of drone and robotics for cultivation/harvesting, rising accessibility to real-time information for farmers to monitor crop quality, increasing transparency across the value chain, providing better-quality implements to farmers to increase yields and providing micro-financing options to farmers to manage risks. All these solutions indicate that improvement in the supply chain, traceability, and accessibility of varied middle services are already underway by AgriTech start-ups that are improving farmer share in profits from crop sales.

Business segment across AgriTech

Various business models have emerged to tackle opportunities in the agricultural value chain. These can be classified into the subsequent main buckets:

- **Market Input Linkage:** The tech firm under the process matches the Agri-inputs sellers with the farmers. Various start-up permits farmers to determine a different kind of services they require consistent with demand, season, supply and provide by partnering them with various businesses.

- **Farm Solution and management:** It aims to boost India's agricultural productivity by ensuring farming equipment is made affordable and accessible. This is often done by providing hire out equipment at affordable prices.

- **Supply Chain and Output market linkage:** The role of star-tup is to bridge the gap of demand-driven from businesses and retail customers of fresh produce and processed food to farmers with the assistance of innovative technology.

- **Post-Production and Processing:** This includes providing near- farm, modular, storage associated processing solutions that are intended to provide farmers a choice to sell the produce at the right time.

- **Retailing and selling/ Finance solutions:** It involves creating use of AI and blockchain technologies to supply and solve credit and payment problems with the farmers.

With new-age start-ups and modest investments expanding in this sector, many public-private partnerships are realised within recent years. Crop in, AgNext technologies, Jivabhumi Agri Tech

KisanRaja are a few of AgriTech start-ups that have established such partnerships with considerable success, according to NASSCOM.

Institutional investment and fundingActivity

India's AgriTech start-ups are growing **at 25 percent YoY.** The start-ups have raised more than Rs. 1,840 crores (US$250 million) in venture funding in 2019. This amount was three times the number of funding raised in 2018. The sector is forecast to attract quite more than Rs. 3,680 crores (US$ 500 million) within the next few years. Seeders Venture Fund, Invested Development (Lead), Ankur Capital, Aspada, and Omnivore were early investors within the sector. In the recent period, it had been seen that the investors like Accel Partners, Kalari Capital, Sequoia, Tiger Global and Bertelsmann India Investments investing in this sector. In 2020, more than 20 AgriTech start-ups have cumulatively raised quite Rs. 920 crores (US$ 125 million) across equity and venture capitals.

Government Schemes andsupport

The government has been a stimulator within the growth of the AgriTech sector and evolving dynamics offers the simplest way to a strong AgriTech ecosystem. It has established the National Centre for Management and Agricultural Extension in Hyderabad (MANAGE). Additionally, the Department of Science and Technology, GOI, organized a food and agri-business accelerator in association with **a-IDEA, TBI of NAARM**. The main target area of this program was accelerating agri-business start-ups by providing mentoring, industry trade network and investor pitching guidance. Ministry of Agriculture underneath Rashtriya Krishi Vikas Yojana has launched an element of Innovation and Agri-entrepreneurship Development program that has already funded 112 start-ups for INR 1185.90 lakhs. In the coming year, the program to fund 234 start-ups within the agriculture and allied sectors are going to be funded for INR 2485.85 lakhs. The government is additionally progressing to invest Rs. 2,000 crores (US$ 270 million) for computerization of the first Primary Agricultural Credit Society (PACS), with the first aim of benefiting cooperatives through digital technology. The Indian government has lent a robust impetus to this sector and **has deployed top 5 AgriTech projects** like Agri Udaan, CropIn, Maha AgriTech project, SatSure, and Thanos. Another initiative is that the Agricultural Technology Management Agency (ATMA), which facilitates retrieval of knowledge and data entry from web-based portals via a daily mobile phone (without using the Internet). Also, there are many favourable government policies and initiatives like PM-KISAN, PM-AASHA, and PM-KMY among others that are uplifting farmers and benefiting stakeholders across the value chain.

The Journey ahead…

With the onset of COVID, an already affected supply chain saw enormous instability, resulting in farmers losing market access and dumping of significant produce. Indeed, in such a situation the role of Indian AgriTech sectors continuing to pioneer to improve farmer's lives and further untapped vast potential sector. AgriTech seems to have reached that inflection point where it is gaining significant attraction among Indian young minds, venture capitalists, and also government grants. The success in the AgriTech landscape depends on **AgriTech's ability to innovate the agriculture value chain without disrupting traditional channels** and in the process create the ability in establishing partnerships with all stakeholders. Tech and other stakeholders are playing an important role in easing the burden on farmers by digitizing the whole supply chain with the use of the latest technologies like computing, the internet of Nasscom Report on Agritech in India.

Kush Sampat
(PGDM Finance, 2020-22)

BITCOIN: A NEW INVESTMENT AVENUE

What is Bitcoin?

A Digital Currency **created in the year 2009** followed by the housing market crash. Created by Satoshi Nakamoto whose identity is still a mystery, Bitcoin offers an online payment mechanism and is operated by decentralized authority and promises a lower cost of transaction. It is one of the first digital currencies. Bitcoin as an Investment: Bitcoin has been hard for an average investor to understand. Most people think that if you own a stock in a company the value of your stock rises and if the stock market dives, one goes for bonds as an alternative. Now it's time for investors to take a serious look into digital currencies such as bitcoin and understand how they must include that as a small part of their investment portfolio.

Let's Analyze this Bitcoin – The New Asset Class under various characteristics:

- **Investability**: The First question that arises before naming it as an asset class is that, can investors have exposure to this asset class? The answer is yes, based on the volume of exchange of this digital currency, which averages to around $1billion in a day, bitcoin has the same level of liquidity as the Equity and Debt instruments round the word.

- **Governance and Self Executing Contracts:** Bitcoin is also distinguished from other major asset classes on the basis of value, governance and applications. What gives it value is the fact that it can facilitate all kinds of transactions, starting with the most basic one of enabling money in the form of bitcoin to be sent across

The world near immediately, securely, transparently and at almost no cost. Bitcoin is really just math, code, run by individuals on their computers all over the world to ensure the credibility of it, and on the opposite end, you have fiat governed by a small group of individuals.

Here is a comparison to the Gold and US Monetary Base which indicates how different bitcoin is from other asset classes. There are self-executing contracts in bitcoin which do not exist in other asset classes

Example of Self Executing Contract: Suppose you rent an apartment from me. You can do this through the blockchain by paying in Bitcoin. You get a receipt which is held in our virtual contract; I give you the digital entry key which comes to you by a specified date. If the key doesn't come on time, the blockchain releases a refund. If I send the key before the rental date, the function holds it releasing both the fee and key to you and me respectively when the date arrives. The system works on the If-Then premise and is witnessed by hundreds of people, so you can expect a faultless delivery. If I give you the key, I'm sure to be paid. If you send a certain amount in bitcoins, you receive the key. The document is automatically cancelled after the time, and the code cannot be interfered with either of us without the other knowing since all participants are simultaneously alerted.
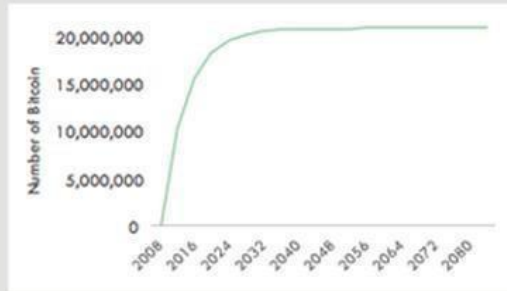
- Support from Personalities like Elon Musk where, after he mentioned cryptocurrency on his Twitter profile, Bitcoin surged above $38,000.

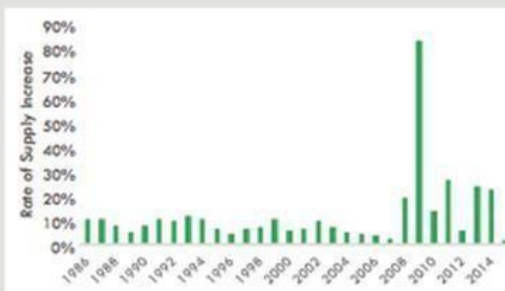**FIGURE 7**
Bitcoin Average Annual Rate of Supply Increase

FIGURE 8
Bitcoin Outstanding
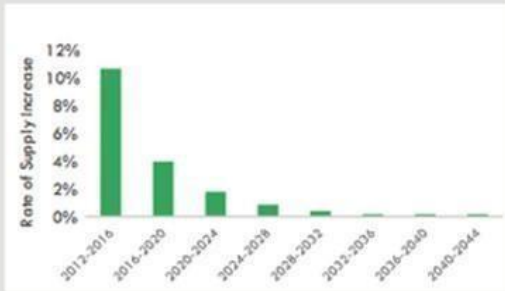
Source: ARK Investment Management LLC & Coinbase, data sourced from Bitcoin Wiki

FIGURE 9
US Monetary Base Annual Rate of Supply Increase
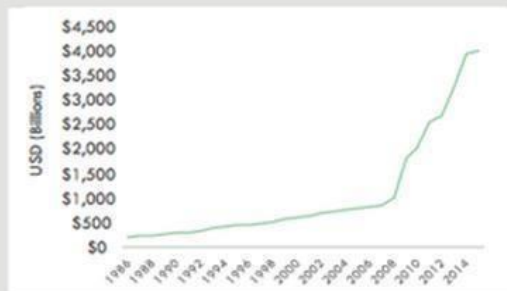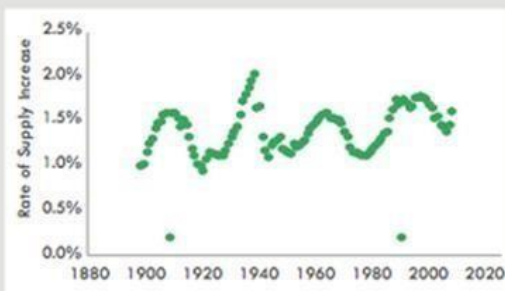
FIGURE 10
US Monetary Base

Source: ARK Investment Management LLC & Coinbase, data sourced from Federal Reserve Bank of St. Louis
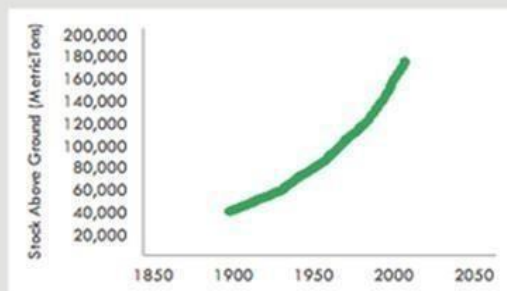

FIGURE 11
Gold Supply Annual Rate of Supply Increase

FIGURE 12
Gold Outstanding

Source: ARK Investment Management LLC, Number Sleuth ("All The World's Gold Facts")

Risk Reward Profile

Risk-reward profiles are exactly as they sound: A comparison of risk in the form of volatility, and reward in the form of absolute returns. When compared, these values produce the **Sharpe Ratio**, a measure of returns per unit of risk taken

Volatility: Bitcoin's volatility is clear in its daily percent price changes. For example, if bitcoin ended Monday at $100, and ended Tuesday at $1 40, then its daily percent change was 40%. With daily price changes as high as 50%, bitcoin has been volatile for much of the last six years, as shown in Figure 22. In contrast, on any given day, stocks and bonds rarely fluctuate by 50% in the absence of severe financial crisis.

Absolute Returns: For the balance of its short life, bitcoin has provided investors with stellar absolute returns, above and beyond that of any other asset class. As shown in Figure 25, only over the last three years have the compounded annual returns been in single digits. Turning now to comparisons with the other major asset classes, if one had invested $10,000 in bitcoin five years ago, it would now be worth nearly $2.3 million and have outperformed other broad asset classes by 114 to 416 times.

Conclusion

Bitcoin is regarded as the 21st Century Gold, already soaring new heights. Imagine if the asset is approved by various governments. Indian Crypto Currency investors believe the ongoing rally in this new asset class is more sustainable in future too. International Monetary Fund (IMF) released a video explainer on crypto which is in support of bitcoin as well as other cryptocurrencies. Supply of this digital currency **is limited** and the ownership of this asset class is opaque. Bitcoin exhibits characteristics of a unique asset class— meeting the bar of investability, and differing substantially from other assets in terms of its **politico- economic profile, price independence, and risk-reward characteristics.** Because our analysis encompasses only six years, it will be important for the community to continue to monitor its behavior in the context of the broader markets.

"

Bitcoin is also distinguished from other major asset classes on the basis of value, governance and applications.

Yash Shah
(PGDM Finance, 2020-22

THE INTENSIFYING HARMONY BETWEEN FINANCE ANDTECHNOLOGY

Fintech is the portmanteau term for finance and technology. Fintech companies basically work as a **mediator between the customer and the merchant** to carry out the financial trade online. With the shift in the mode of business i.e. from traditional cash operated transactions to digital transactions, the role of fintech companies is becoming crucial to make these digital transactions secure, smooth and efficient. Various banks are also collaborating with fintech startups to offer their services online thereby creating a wide customer base for them. To cater to the increasing demand and expansion of services, these fintech companies integrate technology such as Artificial Intelligence, Blockchain and Machine Learning to reduce the error factor and make the service reliable; facilitating the growth of fintech market.

The stockbroker's business is a very apt example to explain the aforementioned statement. In the year **1855 five stockbrokers** decided to initiate a new type of business of investing in companies by using a princely sum of Rs.1. They gathered under a banyan tree at Horniman Circle, Mumbai, and laid the foundation of the BSE, which is one of the largest stock exchanges in the world. Over a period, stockbrokers increased to a sizeable number and so did the inflow of funds which lead to the creation of a highly regulated business of trading and investing.

Initially, the technique used to trade in the stock exchanges was called floor trading. Wherein traders dealing in particular security gathered at the exchange, at predesignated pits, with other traders dealing in the same security. They would use the open outcry method to buy and sell securities. At the end of the day, traders would settle their books to ensure that all their transactions were matched with the counterparty. Since mobile phones did not exist at the time, retail investors would generally pay a visit to their broker and inform them of the trades which they wished to execute. These brokers would then contact their traders in the trading pits who would attempt to get the best price on the trades. Eventually, technological advancements lead to the introduction of computers, mobile phones, and high-speed internet. This made the broking business very easy since brokers simply had to tie up with the exchanges and obtain a license to execute trades from their own offices using their personal computers. Retail traders **did not have to personally approach brokers** to execute trades as it was simply done by making a phone call. The system grew so advanced over a while that individuals could see their real-time positions on their phones themselves and execute trades using applications without the need of having a broker execute trades for them. The brokerage charges which used to range from 1%-5% during the initial days now float at a nominal range of 0%-0.5%. Technology has helped ease investment procedures to such an extent that the equity market capitalization for BSE increased from **Rs. 6,12,224.14 Crore in 2000 to Rs. 1,86,12,644.03 Crore in 2015.**

Various business avenues of finance are witnessing and expecting a dramatic change in their modus operandi as technological advancements start getting accepted across the financial sector. A few technological innovations which have disrupted the traditional methods of doing business in the financial domain are:

P2P Financing

P2P financing is also known as **Peer-To-Peer lending**. The traditional method of obtaining credit or investments was to approach financial organization and prove your or your organization's credibility to obtain a loan or investment. Financial institutions would calculate this credibility using various kinds of models depending upon the risks that they were willing to take. In return for leveraging their positions, these financial institutions would charge a rate of interest or hold equity, if the investment is made in a business venture.

They would also act as middlemen and connect two parties who would be interested in entering into a business transaction. This would enable the institution to earn a commission to ensure a smooth transition of funds. Although this procedure would cost both parties a relevant sum that could otherwise be used to enhance their operational capabilities. Hence P2P lending came into existence. This business model enables individuals or organizations to obtain loans directly from other individuals without the interference of a financial institution.

Various P2P websites **came into existence in 2005** wherein investors can connect to the investees at a very nominal charge or free of cost. Each website sets the rates and the terms which would help swift acceptance of offers. These websites also help in determining the interest rates based on the creditworthiness of the parties involved in the transaction.

The process of executing a P2P based trade is:

Process of Executing P2P based trade:

1. An investor will open an account with the site and deposit a sum of money that he would be willing to lend to another individual.

2. The loan applicant will fill in the details of his requirements after which he would be assigned a risk category that would determine the interest rate that would be chargeable to him.

3. The loan applicant will then be able to review the offers and accept one.

4. The repayment schedule and monthly payment transfers will be handled by the website.

The automation of such a process has led to the creation of several websites that extend loans to a specific group of borrowers. The rate of interest charged to an individual having good credit is generally lower than bank rates.

At present India has 30 P2P lending platforms. In the year 2018, the RBI issues licenses to 11 P2P players to operate as an NBFC-P2P company. The current worth of the P2P lending business in India is **$ 3.2 Million**, although the projected growth for the same is expected to reach $4 Billion- $5 Billion by 2023. At present, the same business is valued at $100 Billion in China

Robotic Process Automation

Several organizations often spend money on hiring employees simply to punch data into computer software to maintain records and assist in decision-making processes. Such jobs are highly monotonous and lead to inefficient utilization of an organization's resources. Robotic Process Automation is a technology that allows anyone to **configure computer software to mimic and amalgamate the actions of a human interacting** with a computer system to execute a business process.

For example, an executive of a company is tasked with the job to or the organization and the employee. Hence, to reduce the time and the efforts, and organizations turn to RPA. Wherein they develop a simple BOT that extracts information from several invoices into a spreadsheet, attaches all the relevant files, and emails it to the concerned superior at a specified time and date.

U.S. robotic process automation market size, by type, 2016 - 2027 (USD Billion)

Source: www.grandviewresearch.com
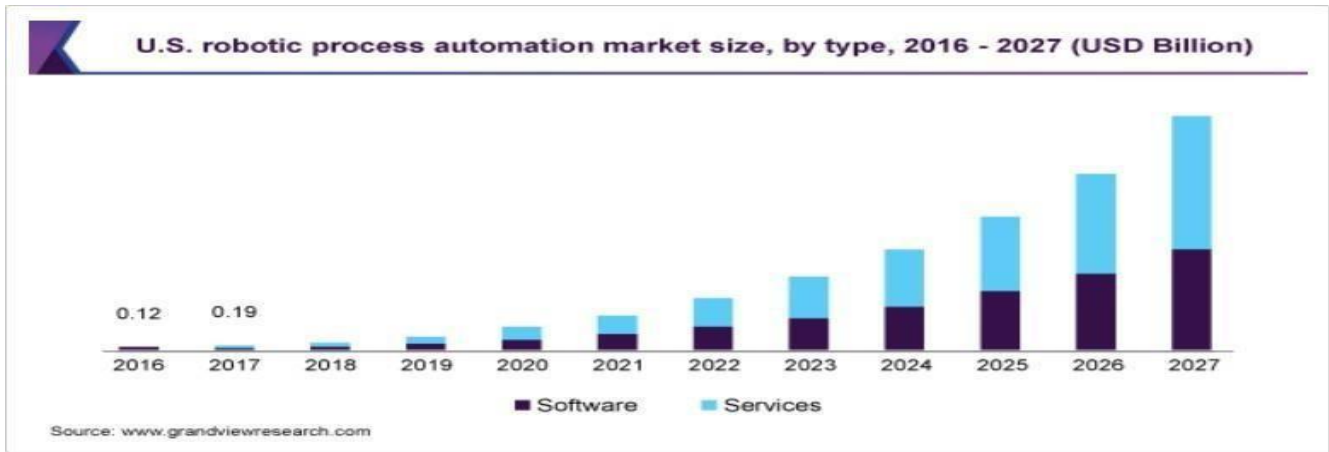
Hence RPA is the use of software with Artificial Intelligence and Machine Learning capabilities to handle high volume and repetitive tasks that were required to be performed by individuals. They involve tasks like addressing queries, making calculations, maintenance of records, and executing transactions. RPA ensures a consistent and error-free output which leads to reduced risk and increased customer satisfaction. It also enables large volumes of data to be processed in reduced time which thus increases efficiency and enables quicker decision-makingcapabilities.

The global RPAmarket was valued at 1.4 Billion USD in 2019 and is projected to grow at a **CAGR of 40.6%** from 2020 to 2027.

The COVID-19 pandemic has encouraged organizations to adopt newer technologies due to the non-availability of human resources, rising costs, and reduced profit margins. RPA has its applications across various financial services like:

• Banking and Finance Process Automation|
• Mortgage and Lending Process
• Customer Care Automation Ecommerce MerchandisingOperation
• OCRApplication
• Data Extraction Process
• Fixed automation process

Academic study projects on RPA forecast that such technology would drive a new wave of productivity and efficiency gains. A study conducted by Oxford University states that 35% of all jobs might be automated by 2035. Entrepreneur David Moss predicts that the implementation of such technological advancements across various service-oriented businesses would revolutionize their cost model. It would drive the prices of products and services down and it will likely drive up service levels, quality of outcomes, and increase opportunities for personalized services.

The introduction of various other kinds of technologies in the financial services industry has led to the automation of many jobs that will become obsolete in the future and also lead to the creation of many jobs that would require strong technical knowledge and enhanced skillsets. Progressive financial organizations are constantly looking out for newer technological innovations to reduce cost, increase efficiency and provide better customer experiences. The advent of Algorithmic trading systems is showing a **new method of making money in the world through trading and investing in the stock markets.** Machine learning and artificial intelligence are allowing financial service companies to collect and understand data faster and more productively. The entire sector from banking to insurance and data collection to data processing is being automated such that the future would require individuals with a more unique skill set and qualifications to compete with the ever-evolving world.

Manasi Deshmukh
(PGDM Finance, 2020-22)

DATA ANALYTICS IN BANKING

Introduction

In order to know the use of Big Data in the Banking sector, let first know a few things about Big Data. There might be many questions in the reader's mind while thinking about Big Data, like who produces this data? How is this data processed? If this data is so huge, how can we derive meaning out of this data? You will find the answer to these questions in this article.

In the pre-internet era, all the applications **were desktop applications** as in we had to install the applications such as Microsoft Word, Excel on our personal computers. Hence the data produced was only from that machine's database. After the year 2000 lot of applications started scaling up and were being built on the internet. Hence the quantity, variety, and availability of the data increased manifold, and that's where Big Data comes in. **Volume, Variety, Veracity, Value, and Velocity** are the five Vs. which define Big Data.

Need of Big Data in Banking

The data generated by financial services globally is in billions and is structured and unstructured such as **emails, call logs, weblogs, audio and video communications,** and mentions on social media. Ecommerce and mobile payments have fueled the increase in global payments and thus causing this data explosion.

Big Data helps keep the log of all financial transactions, payment records, credit history, and interactions such as with the bank call center to create a digitized knowledge base. This knowledge base is used by the experts for data mining and creating value for their customers. Banks can use big data analytics for fraud detection, compliance, regulatory requirements, and customer segmentation.

Data processing steps in Big Data Analytics

Step 1: Identifying the goal behind the analysis, which is also known as business case evaluation

Step 2: Identification of data where a wide variety of data sources are identified.

Step 3: Data filtering, where all the data from the previous stage is filtered in order to remove the corrupt data.

Step 4: Data extraction – data that is not compatible with the available tool is extracted and then transformed into a compatible form.

Step 5: Data aggregation where data with the same fields across different datasets are integrated.

Step 6: Data analysis where data is analyzed using different statistical and analytical tools.

Step 7: Data visualization – here, tools like Tableau, Power BI, and QlikView can be used by Big Data analysts for visualization and analysis.

Step 8: Final Analysis result – here, the final results of the analysis are made available to business stakeholders who will take further actions or decisions.

How Banks use the Big Data Analytics

SBI uses data models to automate its loan disbursement process, automation of education loans, car loans, home loans, etc., and reduce non-performing assets.

HDFC uses Big Data Analytics to understand the personal habits of its customers for promoting offers. Big Data Analytics/Hadoop is used to reduce money laundering.

JPMorgan Chase and Co. uses Hadoop **to deal with their customer base of 3 billion** and massive data generated from it. They can generate insights into customer trends, and these reports are offered to their clients. Thus, they can analyse a customer individually; also, they are saving a lot of time as these reports are generated within seconds.

Bank of America, the largest bank in the United States, has a customer base of 70 million. Through Big Data Analytics, they discovered that their end – to – end cash management system was too stiff as it **hindered the customer's freedom** in managing the cash freely and in a flexible way. Soon they launched a website CashPro Online thus providing their customers with a one-stop solution for all the services.

Thus banks can gain a complete view of customers with profiling. Banks build a detailed customer profile by including various factors like their spending patterns, channel usage, buying behaviours, social media usage, etc., and then provide discounts and various offers to the customers.

Future scope of Big Data Analytics in Banking

Currently, machine learning and artificial intelligence are the two technologies which can be combined and applied to loan portfolios to help bank target customers. This will happen when these technologies start automatically reviewing customers' databases and highlighting common data points like credit score, household income, and demographics, which banks can use to target the right customers.

Conclusion

Big Data Analytics is the future of Banking, and India should start leveraging this opportunity. As we see many banks being the **target of loan defaults and audit failures,** using Big Data analytics and artificial intelligence, we can prevent these scams and make banking more secure. Indeed, FinTech is the next big thing!

Nikhil Sharma
(PGDM Finance, 2020-22)
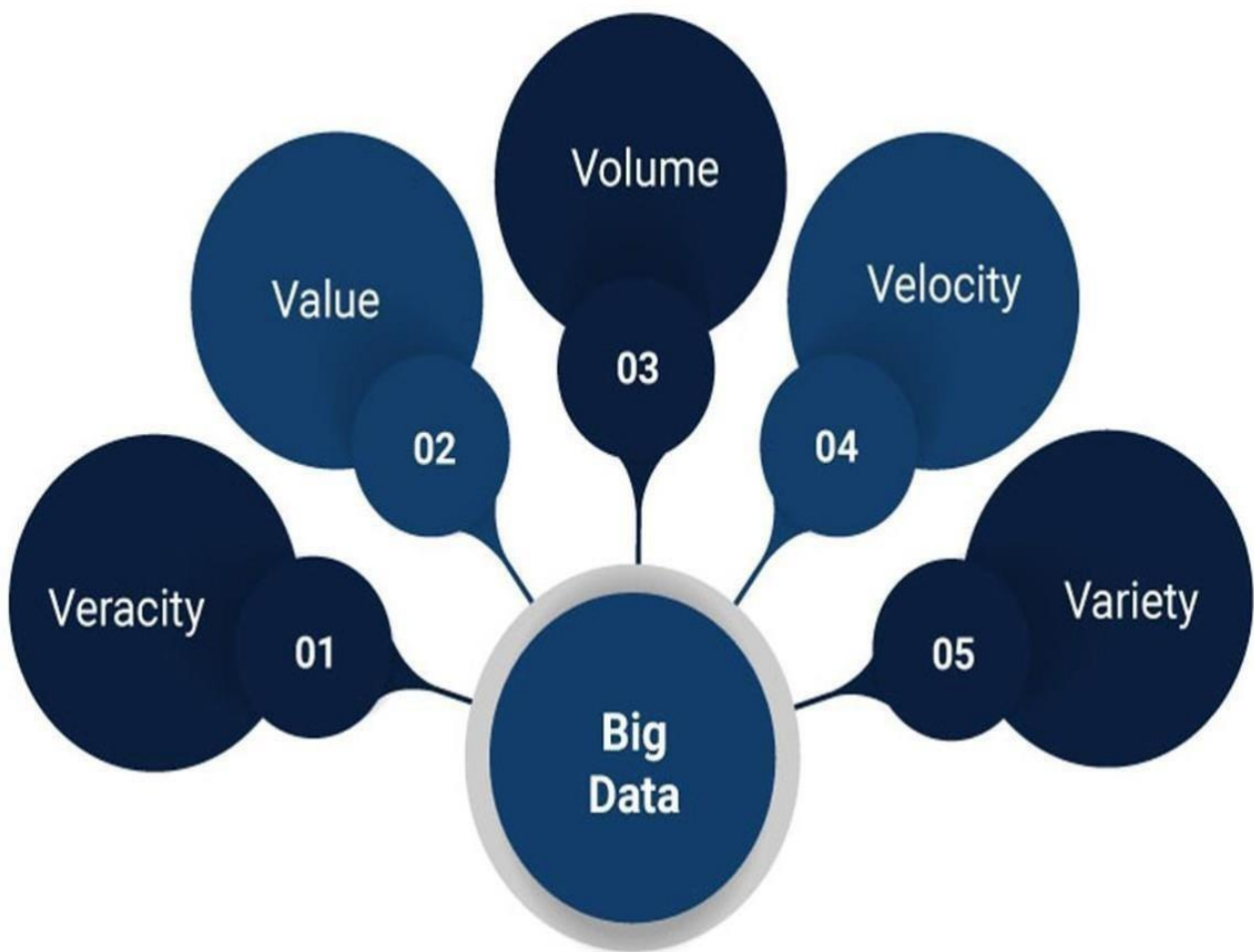
THE EASE OF ALGORITHMIC TRADING

By the time you identify an opportunity and you actually place a trade, you are almost always late. The main cause of this is the lack of speed, where many **opportunities are missed, especially in the options market.** A premium of Rs.10 on a PE/CE option can become Rs.200 in a matter of minutes. These kinds of situations arise multiple times and if you want to trade in these options where you don't really have that speed to match other traders who are operating in the market on account of which you may get unfavorable prices.

However, the bigger problem while trading is the psychological issues; greed and fear in every trade even though you completely know that for the position size you have taken it is very much possible for you to see **a loss of Rs.5000 to 10,000 before you can see a profit of Rs.20,000 to 30,000.**

You may have found yourself trading more than you thought you would; instead of taking one or two trades in a day, you end up taking multiple trades which leads to overtrading. Not cutting the losses in time is another psychological problem for all of us. Then revenge trading, desperation trading, and problems like taking profits too early arise generally everywhere. These are the issues faced when it comes to discretionary trading

Discretionary trading means that you are using your own experience. It is mind driven trading. So, at some point, a discretionary trader becomes very much dependent on intuition which makes it prone to mistakes.

Rule-based trading is a system of a collection of rules. You identify all the rules that you think will work in the market. Rules related to your strategy, your position size, your scaling in and out of position, your stop loss, all the rules which you can think of, you take those rules and you put it in a system. And as long as the rules are good, you are good to make profits. Mechanical trading, quantitative trading, Algo trading, high-frequency trading, automated trading, statistical trading is rule-based trading.

The speed of execution of a trader is **300 times faster than the speed of manually** taking a trade and thus it makes an efficient trade as the entries would be as per the rules and exit would be as per the rules. You are much more disciplined when you use algo trading and you don't have to deal with psychological problems while trading. Thus, you will get more opportunities, better prices, and make fewer losses by avoiding bad trades. The other problem that Algo trading solves is that there is no necessity to be in front of the screen all daylong.

Working:

You come with an idea that if a script comes to its long-term resistance, I should take a short position then you put that rule into a computer program and build your rules. So basically, you **upload your brain into the computer program** and then you are out of the equation and the computer is trading on your behalf with your broker.

To set up, you also need a data vendor. Data vendors are those vendors or companies that provide you the data of price, volume, open interest, etc. They have to be NSE authorized. Global Data Feeds, True Data, Ticker are some data vendors. The data goes to the strategy platform. There are many strategy platforms that you can explore, you have Amibroker, Meta Trader, Ninja Trader, Meta Stock, Trading View, and many more.

A strategy platform is a place **where you build your strategy.** The choice of this strategy platform depends on you and your convenience. But you need to consider that the platform is stable, it should have good support, should have intuitive language as all platform have their own language, for example; Amibroker language is called Amibroker's Formula Language and the most important aspect is that it should be widely known so that you can get a lot of support from their community programmers. On the strategy platform, you can see all your strategies in the graph including buy signal, sell signal, moving averages, and all these data comes from the data vendor you have set up. This setup is done one time and subsequently, the account is maintained at an average cost of Rs.2000-2500 per month. Every broker has an API (Application Programming Interface). API is basically a connection that the broker gives you, that is available for you to send your orders to your broker's terminal.

The most commonly used strategies for algo trading are trend following and mean reversion strategy. Besides these general strategies, there are some specialized strategies like pair trading, arbitrage, and scalping. Anyone can make a strategy using Renko charts, Heikin Ashi charts, breakouts, super trend, RSI, MACD, and candlestick patterns.

You can build a strategy **using Formula Editor**. For example, to build a strategy of crossovers of moving average(MA) of 20 periods and 50 periods in Amibroker you need to first plot the chart style, the line of 20MA and 50MA, post which you need to enter your rule which states to buy when 20MA crosses above 50MA and to sell when 50 MA crosses above 20MA, then you need to enter your quantity per trade and then you need to backtest it. So, you take this strategy, then you apply the strategy to the past data of a script or index to see if the strategy works or not. Backtesting can show you cumulative profits during a selected period.

The final step is the execution strategy. There are two ways in which you can execute strategy. It can be a **fully automated system or a semi-automated execution**. In a fully automatic system, the order gets directly executed at the broker's terminal, while in semi-automated you will get a signal and you need to allow the signal to execute the order in your broker's terminal. That is how algo trading works.

Additionally, there are five aspects that every algo trader should implement, the first one is to document all the rule. Number two is that you need to play around; if you want to learn anything you need to play with it by implementing your own strategy. If you are facing a problem in writing a code hire a programmer don't get discouraged just because your end goal is to become an algo trader and your lack of ability to code should not stop you from reaching your goal. And the most final aspect is that you need to backtest your strategy continuously. **The more time you spend in back testing the more surety and conviction you will get on your strategy**. As we all know that Algos don't make money but traders do.

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The speed of execution of a trader is 300 times faster than the speed of manually taking a trade and thus it makes an efficient trade as the entries would be as per the rules and exit would be as per the rules. You are much more disciplined when you use algo trading and you don't have to deal with psychological problems while trading. Thus, you will get more opportunities, better prices, and make fewer losses by avoiding bad trades.

Student Articles

Rakhi Narula
(PGDM Finance, 2020-22)

HOW CHATBOTS ARE REVOLUTIONIZING THE BANKING EXPERIENCE IN INDIA

The Banking Financial Services and Insurance (BFSI) sector is dynamic and the biggest buyer and adapter of technology. The now widely accepted technology in this sector is "Chatbots" which has already begun to make a mark in the Indian Banking Industry as it provides customers quick and personalized responses facilitating banks in retaining their customers. So what are chatbots? Chatbot is a programme that stimulates human conversation through text or voice command or both. Chatbots have the capacity to smoothen the interaction between any organization and its user It through minimum human interaction. was first introduced by MIT professor Joseph Weizenbaum in 1960's which was named "ELIZA"
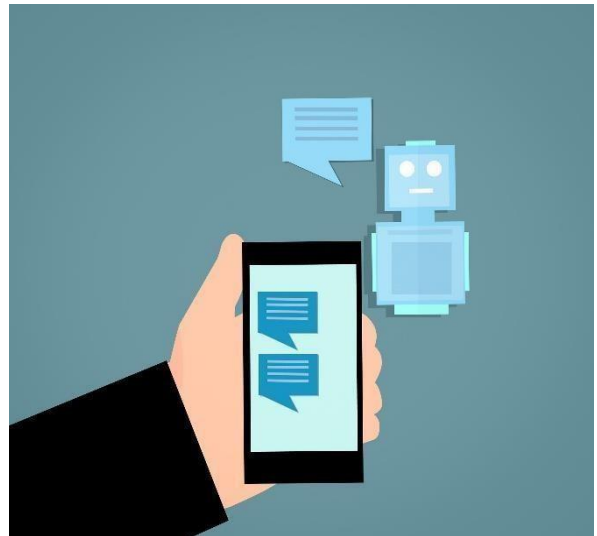
and since then it has come a long way. Currently chatbots can be broadly classified into two types Rule based and A.I (Artificial Intelligence Based) while the prior can only respond to pre-defined questions with pre-set answers making them not quite responsive, the latter uses machine learning and can answer much more complicated questions ,it can go beyond and can provide a human like interaction with a personalized experience. Another advantage of this kind of chatbot is that it is capable of learning from its user experiences and hence performs better with time, a classic example of it isAlexa.

Adopting a chatbot in a bank can provide various benefits to its user banks in the followingways:

1-It helps in Answering the Frequently asked Questions-
Frequently asked questions such as-
•What is my bank account balance?
•What are my last 5 transactions?
•What is the loan interest rates?
Can be conveniently answered by Chatbots hence dedicated customer care personals need employ their time in answering such questions instead they can spend time on solving more complex issues.

2 It Assists the Banks Marketing Department
Chatbots can help in formulation of better marketing strategies for banks by timely gathering and analyzing customer feedback. Chatbots can also be programmed in a manner as to facilitate a lead or a potential customer of a banking service to be directed to the salesperson of the bank.

3 It facilitates Core Banking Activities
State of the Art chat bots can facilitate banks in conducting core banking activities for instance collection of EMI within the chat window. Furthermore, they could also apply for a loan, transfer money, pay for bills etc simply by conversing with the chatbot.

4-24*7 Customer Care Support

In these dynamic times serving your customers in a personalized way is key to growth and through Chatbots banks can provide a. 24*7 customer care support and hence maintain its competitive edge in the market thereby retaining customers

5 Cost Saving

A report released by Juniper stated that chatbots will be responsible for over $8 billion annual cost savings by 2022. Chatbots facilitate banks to save their cost as they require just a one-time investment which is less costly than employing a dedicated customer care executive's.

6 Appropriate for CustomerInteractions-

Studies show that customers find phone calls tedious and slow whereas they find emails an impersonal mode of communication. In such a case chatbots provide a speedy and personalized experience demanded by customers.

Given the advantages provided by chatbots various Indian Banks are leveraging through them. The following are the popular chatbots adopted by various Indian Banks-

HDFC Banks's Eva-HDFC Banks Eva (Electronic Virtual Assistant) is India's foremost and largest A.I powered banking chatbot. The 2017 launched chatbot facilitates in serving customers better and faster by providing information instantaneously simply by conversing with it. It saves the customers from the pain of browsing, searching clicking buttons and making calls to attain information. In the near future it would also have the capacity of handling banking transactions It has the capacity of conversing with over 20,000 customers in a single day and has already served 5 million queries.

SBI Bank's SIA-The largest public sector bank of India SBI also launched its Artificial Intelligence based chatbot SIA (SBI Intelligent Assistant) in 2017 which has the capability to respond to 864 million queries a day that relate education, home, car and personal loans. This multilingual chatbot can respond in 14 languages in text or speech.

ICICI Bank's iPal- ICICI Bank deployed an A.I based chatbot in 2017 named iPal that provides instant solution to all customer queries on the mobile banking application iMobile and its website. It supports all vernacular languages, voice support and Application programming interface with platforms such as Google Assistant, Siri and Facebook Messenger.

On a concluding note, although various Indian Banks have adopted chatbots to maintain their competitive edge and to leverage on the benefits provided by them chatbots must become smarter for the banks as the ones adopted in India as of now are still far away from the goal of having a chatbot that mimics a human conversation and provides an experience of a natural chat between people despite one of the party being a bot making the experience more personal. Nonetheless it is safe to say that chatbots adopted in India are assisting the bank's customer care department in dealing with its customers efficiently though not replacing it.

Aakarsh Bedi
(PGDM Finance, 2020-22)

THE FUTURE OF BANKING:ROLE OF IT

Banking is one of the most important and innovative sectors of the modern economy and is responsible for channelizing funds from savers to investors. Since the last few decades, the entire banking sector has seen unprecedented changes, with IT being the long end of the stick for improvisation and synchronizing its evolving business environment. In the year 2019, the banking industry contributed **7.7% towards our GDP.** With this pace, the Indian banking ecosystem shall become the 3rd largest in the world by 2025..

A key characteristic of the generation known as 'millennials' is that technology is the answer to most evolving business problems. This has been the case been with our banking industry, which has been through turmoil and having a roller coaster ride-like journey for years now. Traditionally the length and width of a bank in public sentiments was measured by the number of branches that the bank had, which in the earlier 2000s was replaced by the number of ATMs a bank has installed. The matrix now has come up to automation of banking transactions and ease of serving a customer.

To be successful, banks **will need to embrace emerging technology**, remain flexible to adopt evolving business models, and put customers at every strategy's core. Fin-techs and Blockchain technology entering the industry, whether they will act as facilitators or disruptors, is an ongoing debate these days. Moreover, blockchain technology in practice will make new synonym of analytical and human processes that shall be- 'Algorithmic Processes.'

The progress of Artificial Intelligence and the use of cloud technology to store data have reduced transaction costs. As per a recent report of Accenture, **around 3-4%** of the market share of traditional banks have got diluted in certain segments of business because fintech platforms like Amazon pay, Google pay, Payz app, etc. are gaining prominence, and hence time and again banks are writing petitions to RBI requesting them to grant permissions to charge such transactions beyond a limit.

The Banking and financial service industry has to forecast the upcoming revolution that is evident with these technologies (augmented reality prescriptive security, etc.) entering the industry. Efforts should be made to make technology a core competency to satisfy customers and make their experiences worth their time and money. In years to come, the partnerships amongst banks and fintech companies can be one of the most important revolutions that can frame the pathway for banks to develop technology as a core competency; moreover, this could be a win-win

for both banks and fintech because for fintech companies banks are their biggest client base

With technology taking command, job roles within banking infrastructure also seem to swap now, bank end opportunities are becoming more eye-catchy with vending machines replacing head cashiers and chatbots looking to take up the services performed by relationship managers. As per a report by 'Mckinsey,' half of today's work activities shall be automated by the end of 2055. In 2007 Bill Gates, the co-founder of Microsoft corporations, said, "Banking is essential-not banks"; back then, fintech were not operational, and hence it was difficult to decode the context of what he said, but now it's pretty clear that he had the vision to amplify fin-techs vis a vis bank.

Hence it now becomes a need of the hour for banks to **consider fin- techs as facilitators** and consider them as partners rather than disruptors and take them alongside to achieve economic development and financial inclusion in our society.

Technological innovations will be paramount area to work on for the banking industry in many years to come, and if big banks do not make the most of it, the new players from Fin-Tech and large technology companies surely will capture the stakes and make the most of it.

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A key characteristic of the generation known as 'millennials' is that technology is the answer to most evolving businessproblems

BLOCKCHAIN: A REVOLUTION

A revolution in the field of technology has always brought about a revolution in various other fields. Such is also the case of blockchain. This technology that has gained momentum in the recent past has actually been around for more than a decade. In 2008 when an individual or a group of anonymous people, under Satoshi Nakamoto's pseudonym, created this technology, little did they know that it would one day alter the way database was created and stored around the world.
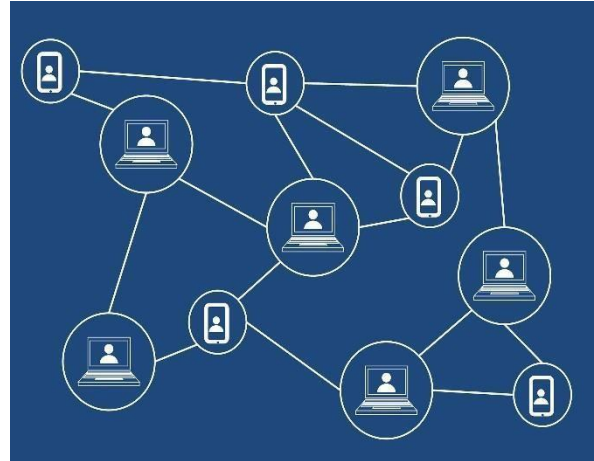
What is Blockchain?

Blockchain is also referred to as **Distributed Ledger Technology (DLT).** Because of its decentralized nature, every transaction is recorded across a network of computers, which makes it almost impossible to alter any transaction that has occurred. If a person does attempt altering it, he would have to do so by getting into many computers that may be scattered across the globe. It acts as a distributed public ledger, which makes it secure and transparent.

Typically, data is stored in a tabular format, which allows the user to easily filter out the information they are looking for. This table is generally available with a limited number, or a group of connected people through a common network, like in an organization. This data can be accessed and altered by anyone in the organization. The problem arises when someone from outside the network gets a hold of it and tries to alter it. Since the data has now been altered, no record of its original format exists, and hence it is susceptible to external or even internal threats. This is the biggest difference between a typical database and blockchain. Blockchain holds sets of information in groups, which are typically referred to as blocks. Each block has a certain storage capacity, and once this capacity is met, a new block is formed to store the remaining data. As these blocks keep forming, they keep getting linked (chained) to the previous one, hence justifying its name. One essential element of this system is that it inherently makes a timeline of the data, which is irreversible innature.

The most prominent use of this technology can be seen in the case of **Bitcoin.** Bitcoin is a cryptocurrency that is decentralized and has no regulators. It started being used in 2009 when its implementation was released as open-source software. It is a digital currency that can be sent to using the bitcoin network and requires no intermediaries. Every block created has a unique nonce and hash and contains references from the hash of the previous block. Since this is done on an open peer-to-peer network, every new individual user (miner) has to solve an extremely difficult math problem to find the correct nonce-hash combination to add a new block to the chain doing so, they are rewarded with bitcoins. If an attempt is made at changing the block, it will require re-mining that block and every block in the chain thereafter.

Although this is a very brief explanation of the process of mining bitcoins, it does verify one point: manipulating a blockchain is next to impossible.
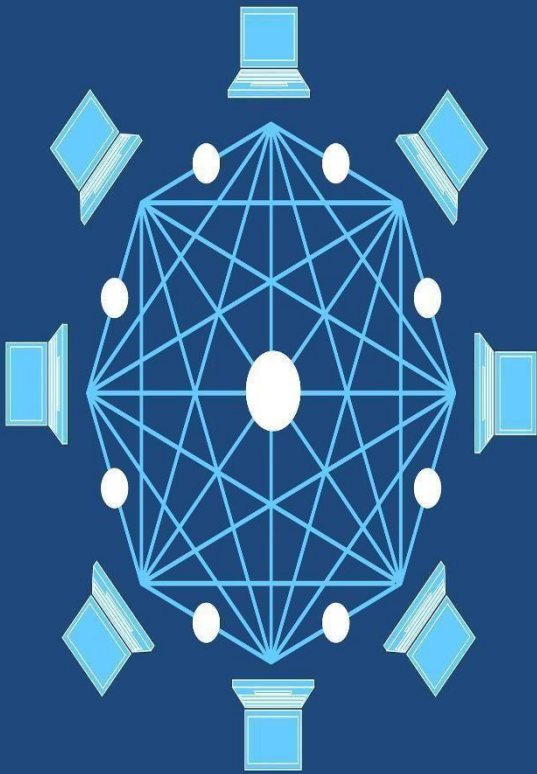
Blockchain and Banking

The biggest selling point of this technology is its **secure and transparent nature.** The field of banking, which has been plagued with money laundering cases over the years, stands to benefit the most. According to a 2014 study, the global spending on Anti-Money Laundering compliance was estimated at 10 million dollars, which means that banks are under tremendous financial pressure to overcome this issue. In addition to this, KYC requests can take up to 30 days to be completed, which further delays the transactions. If the banks fail to comply with the guidelines, they are charged with a substantial fine.

With the help of this technology, a digital registry consisting of clients' cryptographic identities could be created that could be shared with all the banks. This would not only eliminate any duplication of efforts made to carry out KYC checks, but it would also allow any updates made to the client details to reach all the banks in real-time. Simultaneously, it would become extremely easy to identify any entity trying to create a fraudulent history. Spotting irregularities in data would become simpler, and banks will detect foul-play without much effort.

Another application could be to **ease the process of monetary transactions.**

For a transaction to be carried out, a bank requires a significant amount of time due to the sheer volume of transactions that need to be settled. It can be a little difficult to believe that these transactions could be completed in 10 minutes, which is nothing but the amount of time required to add a block to the blockchain. Not just domestic but also cross-border payments, which generally prove to be laborious and prone to errors, will become faster and cheaper with the help of this technology.

Annually, international transactions amount to an estimated **600 billion dollars,** and the fees for such transactions can go up to 10 percent of the value. Companies like SWIFT have been trying to develop innovative initiatives to improve the overall international payment experience. Still, the use of blockchain technology will ensure the removal of various other discrepancies and inefficiencies. Since 2015, many banks around the world are trying to tap into this technology. In 2016, the US Federal Reserve started working with IBM to install a blockchain-based digital payment system. Other banks like Deutsche, Barclays, Westpac, etc., have also partnered with various Fintech companies to come up with low-cost and faster cross-border fund transactions.

Blockchain and Trade Finance

Currently, trade finance is a highly cumbersome and manual process. Since its inception, it has barely seen any change in the way its activities are performed. It involves numerous intermediaries, manual review of financial agreements, a high possibility of miscommunication and fraud where the parties are operating across countries, and ultimately, delay in disbursement of funds due to the tedious process.

By using **Smart Contracts,** this process could be carried out with minimum efforts and lesser intermediaries. In simple words, a smart contract is a contract that is created by the buyer and the seller after agreeing upon the terms of trade, and after they both execute their ends of the bargain, the contract is implemented. In the case of trade finance, once the import bank reviews the purchase agreement and the terms of credit, in real-time, the export bank will be able to review the terms, and once approved, a smart contract will be generated on the blockchain.

This will ensure that the obligations are locked in. This contract will be digitally signed by the exporter. The goods will be inspected by third parties and customs agents, who will then provide their digital signatures on the contract. After the goods are exported, the importer will sign the digital acknowledgement receipt, which will trigger the payment process. These acknowledgements will then be used, and the blockchain will automate the payment via Smart Contract.

This basically shows that, with real-time data and automation of certain processes, we can **eliminate the possibilities of errors, frauds, and duplications** to a great extent. Exporters tend to use invoices with multiple banks to gain short-term finance. In case of failure in the delivery of goods, the risk of non- payment multiplies. But in a decentralized format, this risk can be avoided as a real-time update on these invoices will be available.

The implications and applications of this technology are yet being explored, and the results have been really promising so far. One thing that we can be sure of is, with the help of this technology, we can, to a great extent, eliminate human errors, frauds, and delays, which pose as some of the biggest problems in the field of finance today.

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It is a digital currency that can be sent using the bitcoin network and requires no intermediaries. Every block created has a unique nonce and hash and contains references from the hash of the previous block .

Meet Shah
(PGDM Finance, 2020-22)

CRYPTOCURRENCY:THE NEW EMERGING ASSET CLASS

It is technology that has changed the manner in which people communicate, work, shop, and even do payments for their goods purchased. Both consumers, as well as companies, do not always prefer cash anymore, this gives a way to contactless payments such as PhonePe, Google pay, Paytm .etc. With a wave of smartphones in the world, consumers can pay for goods at digital registers. At present, a new payment system has emerged called cryptocurrency.

Before simply going more further on the topic, it is important to understand what is Cryptocurrency. Cryptocurrency is **a digital payment system** that does not rely on banks to verify the transactions. It is a peer to peer system that can enable anyone to receive and send payments anywhere. Instead of physical money being exchanged and carried out in the real world, cryptocurrency payments exist purely as digital entries in an online database. When cryptocurrency is transferred, the transaction is recorded in a public ledger and is stored in a digital wallet.

The name cryptocurrency was formulated because it **used encryption for transaction verification**. The first thing that comes to mind while thinking about cryptocurrency, is Bitcoin. Although, Bitcoin is just a subset of cryptocurrency. Alternatives to Bitcoin include several heads such as Ethereum, Litecoin, Ripple, and Mintchip. Many such cryptocurrencies make use of blockchain technology. Blockchain in simple terms is defined as a decentralized, distributed ledger technology that records the provenance of a digital asset.

The main reason behind the soaring value of bitcoin is its extensive usage across the world. Many individuals and businesses are using bitcoin as a payment mode of payment instead of traditional currencies. Most consumers are using bitcoin because of certain factors like convenience and security, that blockchain technology offers as a result of which trading has become much easier.

Experienced investors are well versed with the concept of diversification. Lower interest rates today and market volatility due to COVID-19 may be encouraging more investors to diversify assets and safeguard wealth.

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Investors are looking beyond the usual asset classes comprising equities, real estate, fixed income, and alternative investments to invest in those classes of assets from which they can derive higher profits while facing lower risk. Cryptocurrency has provided such a base to various investors who are constantly on the lookout for investment avenues.
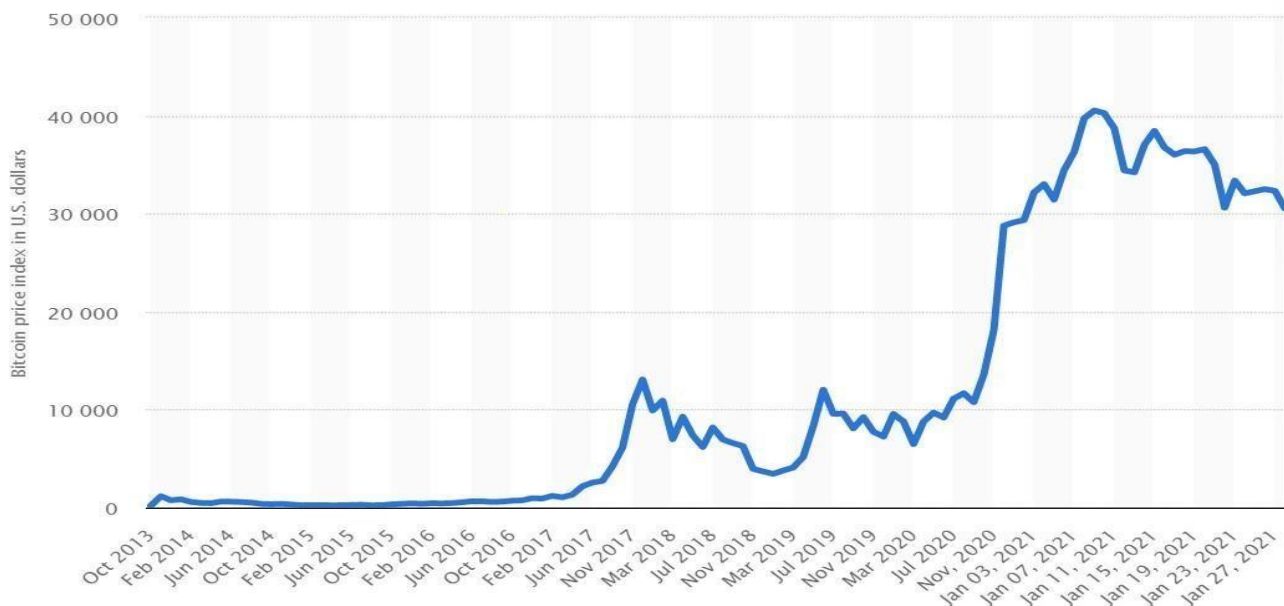
The graph above shows how the value of Bitcoin had risen during the pandemic. Considering January 20.20, the price of Bitcoin was $9545.08 which presently is priced at $30535 which means that the pandemic has had a positive impact on Bitcoin showcasing a **rise of almost 319%.** Historically, alternative investments were only available to accredited and institutional investors with a certain amount of investable assets.

However, in recent years, new investment vehicles, including ETFs, alternative mutual funds, and cryptocurrencies have made this asset class more accessible. Cryptocurrencies are also found to have a very low correlation with any of the existing traditional and alternate asset classes such as bonds, stocks, gold, real estate .etc. This has proven to be a good way of diversifying funds due to which one would also be able to lower the consolidated risk on their portfolio. Efficient allocation to these digital assets in the portfolio can help to bring down the Sharpe ratio (a measure of risk-adjusted return of a portfolio).

To be considered as an alternative asset class, there should be some added benefits in comparison to the existing modes of investments. Some of these benefitsinclude:

1. Cryptocurrency systems being fault-tolerant due to the advanced coding and the mathematical algorithms which are in place to ensure smooth transactions,

2. Cryptocurrency transactions are comparatively liquid to other asset classes. Unlike other alternative

asset classes which are restricted to specific channels, cryptocurrency has high accessibility.
One major feature of the same is that their supply is finite as well as deflationary by nature.

Coming on to the point of whether cryptocurrency can impact the value of a currency. I believe, cryptocurrencies have **no impact on the currency value of any nation** because of the mere fact that they are yet not legalized and therefore have no impact on the economy of the country. This is opposite to Gold since Gold has a major impact on the strengthening and weakening of the currency.

There were also some speculations that cryptocurrency transactions could replace the fiat money or the currently used exchange systems. One major issue that undermines this fact is the intense volatility involved in the usage of cryptocurrencies. Considering an example of bitcoin, whose value in 2017 rose to almost 2000% from $975 to $20000 also during the pandemic, the bitcoin value was found to have risen by 319%. This sharp rise might have been proven beneficial for the investors but the fact that it experiences such major price fluctuations lessens its use as a medium of exchange.

In the end, I would like to highlight some points regarding the future of cryptocurrency. There have been various speculations about cryptocurrency replacing gold, but based on the present conditions, even though cryptocurrency is increasing in value, its market size in comparison to Gold is very low. The most popular cryptocurrency is bitcoin which has a **market value of $300 billion**, which is a mere 3% of the Gold's estimated value by the measure of CoinShares, which broker's investments in the virtual money. Another related concept is StableCoins which is a type of cryptocurrency designed to minimize price volatility. These are relative to either a stable asset or a basket of assets. A StableCoin can be pegged to fiat money, cryptocurrency, or to any exchange-traded commodities. Although a major question that arises here is regarding the need for another system of currency exchange even though there is an existing one in place.

I believe that cryptocurrencies **can be widely used and gain a wider acceptance base** if there are some regulations in place to control the volatility and ensure the safety of people's money. Since as of now, cryptocurrencies are being used for illegal activities such as terror funding activities, the Hawala system .etc. Also if crypto projects are partnered with large companies, virtual currencies will start appearing in a wider base. A recent example being Facebook is expected to introduce its digital currency named Libra in 2021. Thus, Cryptocurrencies might have a bright future in terms of being used as an alternative asset class, provided they are regulated and widely accepted.

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Events

MULYANKAN 2020

NL Dalmia had virtually organized its flagship event Mulyankan, a National Level B-School Paper Presentation Competition, on Friday, 23rd October, 2020. Five teams representing IIM-C, NLDIMSR, Welingkar, Chetana and SCMHRD Pune competed to win the trophy of Mulyankan 2020. The competition was based on "The Indian Debt Market Conundrum". Various students raised compelling points to make their case and bring forward their research and their perspectives with respect to this topic. The same was attended by all the students of NLDIMSR and it was also showcased live on Facebook. It grabbed the attention of the listeners since a debt conundrum is a widely spoken matter of concern with respect to the Indian economy.

The panel of honourable judges included:
- Mr. Arvind Khandelwal (Regional head West- Large Corporates Axisbank),
- Ms. Meghana Saini (Deputy Vice President, Trust Group) and,
- Mr. Mitul Budhbhatti (Rating Head/DGM-Care Ratings).

The teams came up with insightful presentations while the judges assessed their performance, questioned their research and provided their valuable feedback. "MBAgic" of SCMHRD secured the first place in the event and the first and the second runner-up for the same were Chetana Institute of Management and NLDIMSR.

FINANCE CONCLAVE 2020

The Finance Forum of NLDIMSR organized their annual "Finance Conclave" on 24th October, 2020, virtually via Zoom. Two sets of panelists were invited for the event and a vibrant discussion was held on topics like "The Indian Debt Market Conundrum" and "Impact of Negative Interest Rates on the economy".

The event moderator, Mr. Ahmed Masalawala (Debt Capital Market & Structured Finance Specialist at Axis Bank) commenced the discussions by presenting a brief summary of the topics that were further discussed by the panelists. Industry experts like Mr. Arvind Khandelwal (Head of West Region, Axis Bank), Mr. Denzil Fernandes (Head of Debt Capital Markets, ICICI Bank), and Ms. Meghana Saini (DVP, Trust Group) formed a part of the first panel, which answered many questions ranging from the growth of the debt market over the years to the important role played by the regulatory authorities. They also spoke presented their views on what the future of debt market looked like in India.

Panel two included seasoned professionals like Mr. Nikhil Agarwal (Vice President, A K Capital Services Ltd.), Mr. Prasanna Pathak (Head of Equity and Fund Manager, Taurus Mutual Fund), Mr. Sanjeev Patkar (Fund Manager in Alternate Investment Funds, SBI Funds Management Pvt. Ltd.) who focused on the positives and the negatives of the falling interest rates, its impact on the world economy and how India could gain from it.

The session was very informative and ended with an interactive Q&A between students and panelists.

Session on Digital and Technology in Banking

GUEST SESSION ON

DIGITAL AND TECHNOLOGY IN BANKING

Mr. SUNIL AGGARWAL

Banking Expert with more than Three Decades of Experience & an Author of Banking Books

Saturday, 23 January 2021 | 6 P.M. to 8 P.M.

N.L Dalmia Institute of Management organized a session on "Digital and Technology in Banking" on 23rd January, 2021 via zoom which was delivered by Mr. Sunil Aggarwal a banking expert with more than three decades of experience.

Mr. Aggarwal started the session by comprehensively describing various digital payment solutions such as CTS, Credit and Debit Cards, RTGS, NEFT, AEPS (Aadhar Enabled Payment System), UPI, Internet Banking, Mobile Banking, BBPS and Mobile Wallets.

Sir further explained to us the various communication networks being INFINET, SFMS, MMS and SWIFT which help to integrate all the technology in one system thereby facilitating banks to increase security and control.

He elucidated with various authorized payment system operators. Lastly, Sir enlightened us with the various upcoming trends in the field of banking such as contactless cards, adoption of Blockchain Technology for documentationsetc.

The students got the opportunity to interact with Mr. Agarwal through a lively question and answer session which helped them gain a better understanding of the topic at hand.

Session on Post Budget 2021 Analysis

On 3rd of February 2021, N.L. Dalmia Institute of Management Studies organized a guest session titled, "Post Budget 2021 Analysis". The event was hosted by two highly qualified Chartered Accountants who commanded great experience and knowledge pertaining to various aspects regarding the budget.

CA Subhash Kedia is a Senior Partner at B.N.Kedia and Co, who has specialized in Statutory Audit, Taxation, MCA Compliance, XBRL and IFRS complied reporting.
CA Nitin Bhuta is a Proprietor of his firm and is also a management consultant. He has specialized in Direct and Indirect Taxation, GST advisory services and Management advisory services.

The lecture emphasized on the importance of the budget that was rolled out on 1st of February 2021 by the Government of India. It was a very interactive session during which faculties as well as students exchanged their views and perspectives while trying to decode the advantages and the disadvantages of the budget. The lecturers were fairly impressed with the quality of questions raised by the students and the concerns they had with respect to the performance indicators of the economy.

The session was concluded by handing the lecturers a token of appreciation and a vote of thanks.

Session on Demystifying Debt Mutual Funds

N. L. Dalmia Institute of Management Studies and Research organized a Seminar on Demystifying Debt Mutual Fund delivered by Ms. Munmun Desai, Deputy Managing Director at Batlivala & Karani Securities India Pvt. Ltd. on 8th August, 2020.

The session started with Ms. Munmun Desai explaining the basic of Mutual Funds and the importance of diversification. Ma'am explained to us the various options available wherein an individual investor can invest depending on his / her risk appetite i.e. Equity, Debt or Hybrid fund

In the latter half of session ma'am explained to us why to choose Debt Mutual Funds, which debt fund to choose i.e. (Liquid fund, Ultra Short Bond Fund, Overnight Fund etc) and when to invest in them. Ma'am gave informative brief on the yield and interest, the risk debt mutual fund carries etc. The entire session gave us a thorough briefing about Debt Mutual Funds and their benefits.

The session ended with an interactive Q&A.

N. L. Dalmia®

Institute of Management Studies and Research

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