

# a₹tha

A NEWSLETTER OF THE FINANCE LAB

September 2021, Volume 7, Issue 2

9<sup>th</sup> Anniversary Issue





# a₹rtha

A NEWSLETTER OF THE FINANCE LAB



Indian Institute of Management Calcutta

## Chief Editor



Dr. Sudhir S Jaiswall,  
Faculty Member, Finance & Control Group  
Coordinator, Financial Research & Trading Laboratory  
Indian Institute of Management Calcutta

## Editorial Team



Dr. Arvind Ashta  
Faculty Member, Finance, Control & Law  
Groupe ESC Dijon-Bourgogne  
Burgundy School of Business, France



Dr. Asish K Bhattacharyya  
Faculty Member,  
School of Management and  
Entrepreneurship  
Shiv Nadar University



Dr. Avijit Bansal  
Faculty Member,  
Finance & Control Group  
Indian Institute of Management Calcutta



Dr. B. B. Chakrabarti  
Former Professor,  
Finance & Control Group  
Indian Institute of Management Calcutta



Dr. Debarati Basu  
Faculty Member,  
Finance & Accounting Group,  
XLRI, Jamshedpur



Dr. Manju Jaiswall  
Faculty Member,  
Finance & Control Group  
Indian Institute of Management Calcutta



Dr. Radha Mukesh Ladkani  
Faculty Member,  
Finance & Accounting Group  
Indian Institute of Management Indore



Dr. Samit Paul  
Faculty Member,  
Finance & Control Group  
Indian Institute of Management Calcutta



Dr. Sudhakar Reddy  
Faculty Member,  
Finance & Control Group  
Indian Institute of Management Calcutta



Dr. V K Unni  
Faculty Member,  
Public Policy & Management Group  
Indian Institute of Management Calcutta



Dr. Vipul Mathur  
Faculty Member,  
Economics Group  
Indian Institute of Management Calcutta

## Editorial Office

Ms. Priyanka Dasgupta  
Assistant Manager,  
Financial Research & Trading Laboratory  
Email: artha@iimcal.ac.in

---

Indian Institute of Management Calcutta  
Diamond Harbour Road, Joka, Kolkata-700104  
West Bengal, India  
+91-33-7121-1141

# Contents

**1**

Editorial

**Sudhir S. Jaiswall**

---

**2**

Quantum Finance – The New Frontier

**Binay Bhushan Chakrabarti**

---

**10**

The Changing World of Accounting, Auditing, and Finance Divisions as Cost Centres and COVID-19

**Debarati Basu**

---

**16**

Sustainable Development and Business – An Introduction to the What and the How

**Shankar Venkateswaran**

---

**25**

ESG Investing: Making Money While Doing Good

**Utkarsh Majmudar**

---

**32**

FinTech – Will it Contribute to Financial Inclusion?

**Ujjal Choudhury**

---

**42**

The Role of Bitcoin Newsfeed on the Cryptocurrency Stocks Prices: The Case of Marathon Digital Holdings, Inc.

**Issa Helmi**

---

**50**

Factoring and the New Factoring Act

**Arvind Rangarajan**

---

**57**

Evolution of Financial Services in the Last Decade

**Mayank Agrawal**

---

**67**

Role of NBFC-MFIs in Financial Inclusion in India

**Teerna Chatterjee**

---

**74**

Adopting a Stakeholder Approach of Corporate Governance to Combat the Covid-19 Crisis

**Sadrita Deb**

---

*Note: The views expressed by the authors in their articles published in this issue of aRtha are personal and do not necessarily represent the views of their employers, or that of aRtha, FRTL and IIM Calcutta. Authors are responsible for any permission needed for copyrighted material used in their articles.*

# Editorial

---



You would be happy to know that *a<sup>r</sup>tha* has completed nine years. During this journey, we have received patronage from our contributors, reviewers, editorial team members, readers, and well-wishers. I appreciate all of them for their enduring support to *a<sup>r</sup>tha* over these 9 years!

I am pleased to present to you the 9<sup>th</sup>-Anniversary Issue of *a<sup>r</sup>tha*. My special thanks go to the editorial team members for putting this issue together. We have selected the Top Ten articles (out of eighteen received) on various finance, accounting, and governance topics. This issue has a diverse group of authors: four authors are faculty members (including one from IIMC), five are IIMC alumni (three MBA, one PhD, and one PGDBM), one is an IIMC student, six are from industry, and five have a doctoral degree.

The *first* article is about quantum finance, its applications, and its importance in finance. The *second* article examines the evolution of accounting, auditing, and finance divisions as cost centers and the way forward in the new post-COVID world. The *third* article discusses business sustainability factors and the role of managers in ensuring their company's sustainable future. The *fourth* article delves into the models of securities selection for Environmental, Social, and Governance (ESG) funds and the roadblocks to ESG investing. The *fifth* article examines the contribution of FinTech to achieving financial inclusion in India. The *sixth* article discusses how the stock prices of cryptocurrency mining companies (Marathon Digital Holdings) are determined not by any fundamental or technical analysis but by the news flow related to cryptocurrencies (Bitcoins). The *seventh* article discusses the new era of factoring under the Factoring Act, 2021. The *eighth* essay examines the developments in the financial services sector in India and globally during the last decade. The *next* piece provides a theoretical perspective on the role of non-banking micro-finance institutions in India's financial inclusion. The *last* article discusses how, in the face of a pandemic crisis, the stakeholder model of corporate governance can be more effective than the traditional model of shareholder wealth maximization.

We hope that you enjoy reading these articles. Please consider contributing your article and feedback to us at [artha@iimcal.ac.in](mailto:artha@iimcal.ac.in).

Please continue to take great care of yourselves and stay healthy!

**Sudhir S. Jaiswall**

Chief Editor

# Quantum Finance – The New Frontier

## Binay Bhushan Chakrabarti



*Prof Binay Bhushan Chakrabarti is a former Professor of Finance at IIM Calcutta and an ex-Director-in-charge of IIM Ranchi. He is a Mechanical Engineer from Jadavpur University, Calcutta (Gold medalist), PGDM from IIM Calcutta (Gold medalist), Cost Accountant from the Institute of Cost Accountants of India, and Ph. D in Economics from Jadavpur University, Calcutta. He has worked in the industry for 24 years, primarily in the manufacturing and financial services sector. Apart from teaching at IIM Calcutta, he has been a visiting professor at IIM Ahmedabad and other IIMs, including CFVG, Vietnam, ESCP Paris, National University of Singapore, Asian Institute of Technology, Bangkok, Reims Business School, Bordeaux Business School, and ESC Toulouse in France. He has published more than forty research papers in international and domestic journals. He is also on the editorial board of a<sup>₹</sup>tha.*

### Introduction

Why do we need Quantum Finance? The answer is - for more intelligent forecasting and trading systems than available otherwise.

We use theories of finance to price financial instruments. But we often cannot provide an analytical solution like a formula to price a financial product. An example is stock option pricing. Though there is a closed-form solution with the Black-Scholes-Merton model with inherent inadequacies, we still need to adopt alternate numerical solutions and computer simulations to price options (for example, the Heston model). This is the area of computational finance. But computational finance solutions on existing computers are slow to converge to a solution leading to inaccurate pricing and trading strategies in quickly changing markets. So, researchers have been trying to develop alternate computing techniques since the 1990s. Quantum finance, inspired by the development of quantum mechanics, is an alternative. Better pricing of financial instruments, which can positively impact trading and hedging strategies, becomes much more intelligent, accurate, and close to “reality” with the development of quantum finance models and artificial intelligence.

### Quantum Mechanics to Quantum Finance

Physicists, mathematicians, and others have been trying to understand the world around us since the dawn of science. They have been seeking to comprehend the laws of dynamics followed by the material objects in this world. Sir Isaac Newton, in 1687, developed three laws of dynamics for the material objects in the physical world in which we live (Brackenridge 1999). He postulated that all matters and objects must follow Newton's laws of

motion. But now we know that these laws hold good only for normal material objects with normal speed (i.e., speed less than the speed of light, about 300,000 km per second).

But what happens when the material objects move at a much higher speed, say the speed of light? Professor Albert Einstein provided the answer in 1915 (and 1916) in his  $E = mc^2$ , the path-breaking mass-energy equation (Einstein 1915, 1916). Einstein's theory of general relativity thus shows the interconnectedness of space, time, and matter.

Then in 1925, Professor Werner Karl Heisenberg put forward the concepts of Quantum mechanics and Quantum field theory (Heisenberg 1925). The fundamental concept in Quantum mechanics is the wave-particle duality, meaning that every quantum particle (or sub-atomic particle) coexists in two different states – waves and particles. The dynamics of quantum particles are governed by the famous Schrödinger equation. Earlier it was believed that Newton's laws of motion govern all motions of physical objects and matters, whereas Maxwell's wave equations govern the physical dynamics of waves. Schrödinger equation is the foundation of Quantum mechanics and visualizes the coexistence of waves and particles and provides a mathematical perspective.

Can we use the Schrödinger equation and some other related concepts applied in Quantum mechanics in the world of finance? To do so, we need to understand whether wave-particle duality exists in finance. The answer is in the affirmative. Let us use price movements in the stock market to explain the duality.

## **Wave-Particle Duality in the Stock Market**

Let us consider the movement of a stock price in an exchange-traded market. Similar to physical objects in the physical world, the stock price also moves, which we measure by technical indicators like moving averages, momentum, etc. We also understand the wave patterns in stock prices through chart analysis using Fibonacci patterns, Elliot wave patterns, etc. Thus, stock prices move similar to particles and also as waves. Similar views can be expressed for the products in other financial markets like forex, commodities, derivatives, etc.

## **Quantum Finance – Brief History**

Quantum finance is essentially an integration of Quantum Theory and Computational Finance. The Quantum field theory provides the theoretical foundation for applying Quantum finance, and Computational finance models provide the system framework for applications.

Quantum finance was developed as an interdisciplinary subject in the 1990s. It applied quantum mechanics and quantum field theory to theoretical economics ushering in a new branch of study called econophysics. The first published work on econophysics was by Professors R. Mantegna and E. Stanley in 1999, wherein they explored the use of stochastic dynamics, short- and long-range correlations, and other concepts in describing financial

systems (Mantegna and Stanley 1999). Baaquie (2004) reviewed applications in option pricing and interest rate modeling. He is the first scholar to develop the theory of Quantum finance using the Quantum field theory. Many more researchers have since studied the application of Quantum finance in different financial markets and areas.

## Basic Concepts of Quantum Finance

Two main Quantum finance models are:

- 1) Feynman's path integral approach
- 2) Quantum anharmonic oscillator approach (QAHO)

Feynman's path integral approach models and integrates all possible paths of quantum financial products (Swanson 2014). Its major applications include modeling and evaluation in primary financial markets such as forward interest rate and option pricing.

The Quantum anharmonic oscillator approach (QAHO) instead focuses on the numerical approximation of the quantum finance Schrödinger equation into quantum anharmonic oscillation. Quantum anharmonic oscillation is essentially a quartic polynomial equation, which can be solved by a numerical computational model. Its major applications include evaluating quantum price levels for any financial product in the secondary financial markets (Bloch 1997).

## Forecasting Prices (Quantum Price Levels) in Financial Markets

Quantum price levels of traded securities are outcomes of financial energy levels generated by market participants in every secondary market and are analogous to quantum energy levels in atoms. For example, in the currency market USD-EUR, the price level changes from the opening price by the action of the quantum energy levels in the market originating from the traders – some pushing the price up by buying and some hammering the price down by selling. We say that the participants generate quantum finance anharmonic oscillations and motions.

At this stage, let me introduce the Quantum Finance time-independent Schrödinger equation, which essentially has to be numerically solved to forecast price levels in secondary markets (Schrödinger 1926). The partial differential equation is as follows:

$$\left[ \frac{-\hbar}{2m} \frac{\partial^2}{\partial r^2} + \left( \frac{\gamma\eta\delta}{2} r^2 - \frac{\gamma\eta\nu}{4} r^4 \right) \right] \phi(r) = E \phi(r)$$

where  $\hbar$  is the Planck constant representing the uncertainty of financial behavior,  $m$  is the mass representing the intrinsic potential of the financial market (for example, the market capitalization of a particular financial product

in a financial market),  $r$  is the price return,  $\gamma$  represents market depth (defined as the excess demand required to move quantum price  $p$  by one quantum),  $\eta$  is the damping force factor,  $E$  is the eigen energy of the financial market,  $\phi(r)$  is the corresponding eigenfunction (wave function whose distribution can be observed by repeated application of numerical estimation) and  $\delta$  and  $v$  are the damping term and volatility factor of the financial market.

How do we solve the above equation? We can apply the numerical technique with the Finite Difference Method (FDM). FDM provides an intuitive, practical method to solve complex differential and high order equations by numerical approximation and is implemented by computer algorithms. This technique provides a close approximation to the “actual” analytical solution when the number of observations is sufficiently large, leading to sufficiently small time steps.

We will not delve into the actual solution or implementation of the Schrödinger equation in this article. Although MATLAB programs are useful in this context, many prefer using MQL (MetaQuotes Language) in real-time situations.<sup>1</sup>

Quants and analysts can these days solve for any Quantum price level and integrate into trading systems. The important issue, of course, is how to use the Quantum price levels together with other artificial intelligence tools to design and implement real-time financial predictions and intelligent trading systems.

## Artificial Intelligence Tools in Quantum Finance

The term artificial intelligence (AI) was coined by the five AI founders – four professors (two each from Carnegie Mellon University and Massachusetts Institute of Technology) and an IBM executive in the Dartmouth conference in 1956 – though Sir Alan Turing did publish his famous Turing test in 1950. Professors Stuart Russel and Peter Norvig provided a survey-based definition of AI as systems that think and act rationally and like humans (Russel and Norvig 2015). The three pillars of AI are Artificial neural networks, Fuzzy logic, and Genetic algorithms. Let us briefly discuss these pillars without getting into technical details in this article.

Artificial neural networks (ANN), the brain of AI, focusses on the study and modeling of intelligent systems to mimic the human brain (McCulloch and Walter 1943). ANNs are commonly classified by 1) machine learning techniques and 2) areas of application.

There are three main types of ANNs based on machine learning techniques. 1) Supervised learning networks, which learn based on input and target output pairs. Some examples are feed-forward backpropagation neural network, support vector machine, and radial basis function network. 2) Unsupervised learning neural networks learn not from supervision but from self-organization and self-clustering (adaptive resonant theory is an example).

---

<sup>1</sup> MQL (MetaQuotes Language) is a high-level object-oriented programming language.

3) Reinforcement learning neural networks are useful in trading strategy optimization without an exact target solution. The network responds positively with a positive reinforcement signal and negatively otherwise.

There are five main types of ANNs in terms of areas of application – classification, prediction, pattern recognition, associative memory, and optimization. Feed-forward backpropagation and radial basis function networks can be used in classification, prediction, and pattern recognition. We can use autoencoder and bidirectional associative memory for associative memory. Finally, for optimization, the Boltzmann machine technique can be used.

Fuzzy logic refers to structures as vague. In 1965, Professor L.A. Zadeh introduced the term fuzzy set (Zadeh 1965). We perceive fuzzy sets of information as unclear and uncertain, and would instead like to believe a crisp set as the reality. But in the real world, 100% certainty is hardly achieved. As far as financial applications are concerned, fuzzy logic is integrated with other AI technologies to produce more sophisticated systems. Two major kinds of such hybrid systems are fuzzy expert systems and fuzzy-neuro systems. Fuzzy expert systems can be used in financial trading, which uses a fuzzy knowledge base and fuzzy technical indicators to develop expert advice and perform day trades. Fuzzy-neuro systems are widely used these days for stock prediction.

The concept of the Genetic algorithm, introduced by Professor John Holland in 1960, is based on the Darwinian concept of evolution theory – survival of the fittest (Holland 1992). The basic entity is the chromosome which is essentially a sequence of values/states in financial applications. A generic algorithm focuses on target system improvement through generations of evolution and uses a fitness value to achieve the target objective. Generic algorithms are helpful in two main categories of problems like optimization and scheduling. They are also widely used along with neural networks for topology optimization and genetic training algorithms.

## **Applications of Quantum Finance**

We present here some applications for predicting quantum price levels of financial products, trading and hedging in financial markets, and some new opportunities through AI technology.

### **1) Predicting Quantum Price Levels**

Financial markets reflect investors' collective wisdom every moment. Collective wisdom evolves and changes, creating patterns in market information. Financial market prices may not indicate the true intrinsic value of the traded securities since the markets heavily rely on informational transparency. Financial markets deal in stocks, bonds, forex, derivatives, and money market instruments and include both over-the-counter and exchange-traded markets. Many electronic trading platforms are used in different markets for varying applications. For example, Meta Trader (MT4) platform is widely used for online retail foreign exchange speculation. Bloomberg LP provides an equity trading platform. CME Globex trading system is the backbone for trading in futures contracts and other products. In India too, various broking houses have provided online trading platforms. Some of these

trading platforms like MT4 provides an evaluation of quantum price levels using MQL (MetaQuotes Language). Forex.com is a prominent forex trading platform, and AvaTrade.com is a major cryptocurrency trading platform. Both platforms use MT4. As of 2019, they provide quantum price levels for 129 financial products, including 84 forex pairs, 19 financial indices, 17 major commodities, and 9 cryptocurrencies.

## 2) Quantum Trading and Hedging

Conventional trading and hedging strategies include single product trading/hedging of stocks, pairs trading, trading in an exchange-traded financial product with hedging in a related traded product, and portfolio trading to maximize returns and minimize risks. The widely used major trading and hedging strategies include trend-setting, breakout trading, reversal trading, channel trading, averaging, stop-loss trading, and hedge trading.

Since such trading and hedging strategies are in the secondary financial markets, the quantum anharmonic oscillator approach can be used to determine the quantum price levels, which would provide the support and resistance levels for technical analysis. In quantum finance, however, there is no difference between support and resistance levels. Quantum finance price forecasts can help in deciding the appropriate trading and hedging strategy.

## 3) Some New Opportunities through Artificial Intelligence

The continuous research in AI technology has opened up many new techniques and opportunities, including

- a) Artificial intelligence clustering technique in futures trading strategy (Hsu et al. 2009);
- b) Principle component analysis (PCA) for multi-currencies trading in the forex market (Byun et al. 2015);
- c) Artificial neural network for quantitative trading strategy (Li et al. 2017);
- d) Reinforcement learning system for investor sentiment reward-based trading systems (Yang et al. 2018);
- e) Time series data mining for algorithmic trading (Pauna 2019)
- f) Fuzzy logic system for capital management to control intraday risk-adjusted performance of AI trading algorithms (Naranjo et al. 2015)
- g) Genetic algorithm technology for determination of technical trading rules (Allen and Karjalainen 1999).

## Conclusion

Today's customers of financial products – investors, hedgers, speculators, and arbitrageurs – demand faster, more robust, and more secure fiscal products. The solution is quantum technology. Quantum finance, along with artificial intelligence tools aided by quantum computing, is the future of finance.

## References

- Allen F. and Karjalainen R. 1999. Using Genetic Algorithms to Find Technical Trading Rules, *Journal of Financial Economics*, 51(2), pp 245-271.
- Baaquie B.E. 2004. Quantum Finance, *Cambridge University Press*.
- Bloch S.C. 1997. Introduction to Classical and Quantum Harmonic Oscillators, *Wiley*, 1<sup>st</sup> edition.
- Brackenridge J.B. 1999. Isaac Newton, the Principia: Mathematical Principles of Natural Philosophy, *University of California Berkley Press*.
- Byun H.W., S. Baek, J. J. Ahn, K. J. Oh, and T. Y. Kim. 2015. Using a Principal Component Analysis for Multi-currencies Trading in the Foreign Exchange Market, *Intelligent Data Analysis*, 19(3), pp 683-697.
- Einstein A. 1915. Die Feldgleichungen der Gravitation, *Sitzungsberichte der Preussischen Akademie der Wissenschaften zu Berlin*, pp 844-847.
- Einstein A. 1916. The Foundation of the General Theory of Relativity, *Annalen der Physik*, 354(7), pp 769-822
- Heisenberg W. 1925. Über Quantentheoretische Umdeutung Kinematischer und Mechanischer Beziehungen, *Zeitschrift für Physik*, 33(1), pp 879-893.
- Holland J.H. 1992. Adaptation in Natural and Artificial Systems: An Introductory Analysis with Applications to Biology, Control and Artificial Intelligence, *Bradford*.
- Hsu Y., H. Hung, J. Yeh, and M. Liu. 2009. Profit Refiner of Futures Trading using Clustering Algorithm, *Expert Systems with Applications*, 36(3), pp 6192-6198.
- Li Z., Y. Zhang, J. Zhong, X. Yan, and X Lv. 2017. Research on Quantitative Trading Strategy Based on Neural Network Algorithm and Fisher Linear Discriminant, *International Journal of Economics and Finance*, 9(2), pp 133-141.
- Mantegna R.M. and Stanley H.E. 1999. An Introduction to Econophysics: Correlations and Complexity in Finance, *Cambridge University Press*, 1<sup>st</sup>. edition.
- McCulloch W. and Walter P. 1943. A Logical Calculus of Ideas Immanent in Nervous Activity, *Bulletin of Mathematical Biophysics*, 5(4), pp 115-133.
- Naranjo R., A. Meco, J. Arroyo, and M. Santos. 2015. An Intelligent Trading Systems with Fuzzy Rules and Fuzzy Capital Management, *International Journal of Intelligent Systems*, 30(8), pp 963-983.
- Pauna C. 2019. Data Mining Methods on Time Price Series for Algorithmic Trading Systems, *Informatica Economica*, 23(1), pp 26-36.
- Russel S. and Norvig P. 2015. Artificial Intelligence – A Modern Approach, *Pearson Education*, 3<sup>rd</sup> edition.

- Schrödinger E. 1926. An Undulatory Theory of the Mechanics of Atoms and Molecules, *Physical Review*, 28, pp 1049-1070.
- Swanson M.S. 2014. Feynman's Path Integrals and Quantum Processes, *Dover Publications*.
- Yang S.Y., Y. Yu, and S. Almahdi. 2018. An Investor Sentiment Reward-based Trading System using Gaussian Inverse Reinforcement Learning Algorithm, *Expert Systems with Applications*, 114, pp 388-401.
- Zadeh L.A. 1965. Fuzzy Sets, *Information and Control*, 8(3), pp 338-353.
- Zee A. 2011. Quantum Field Theory in a Nutshell, *Princeton University Press*, 2<sup>nd</sup> edition.

\*\*\*\*\*

# The Changing World of Accounting, Auditing, and Finance Divisions as Cost-Centres and COVID-19

## Debarati Basu



*Debarati is an Assistant Professor, Finance and Accounting at XLRI Jamshedpur. Debarati's broad research interests include accounting, corporate governance, corporate finance, corporate social responsibility and organization structures. Prior to joining XLRI, Debarati was a faculty at IIM Bangalore. She also has worked briefly in banking. She has co-authored publications in journals like Journal of Contemporary Accounting and Economics, Global Business Review and Finance India and has received several academic awards. She enjoys spending her spare time traveling, reading and playing multiple sports. She is also an IIMC Alumnus (PhD 2016) and an editorial board member of a<sup>₹</sup>tha.*

The COVID-19 pandemic has brought in a new world of work flexibility with extensive remote work. This has brought in new challenges, particularly for the accounting, auditing, and finance (AAF) divisions given the security and quality concerns associated with their functions. Every stakeholder, whether firms, their divisions, or policymakers, seems to have a different perspective on the best foot forward with respect to work from home, but the decision on the way forward has to be taken now! This article explores how accounting, auditing, and finance cost centres within firms have been structured over time, and discusses the takeaways from each structural change we've seen so far and the opportunities and challenges that firms will experience as they adapt to the new post-COVID world.

Pre-pandemic, firms were choosing between shared services and outsourcing to establish their AAF functions. Post-pandemic, firms are still choosing between the same two alternatives (Rana, 2021) but with the added dynamic of where the employees should work from. Firms need to decide whether to ask employees to be in the office physically (as before), continue working from home (remotely as needed during the pandemic), or plan out a hybrid model. Figure 1 presents a matrix of the possible models that firms can adopt with respect to their accounting, auditing, and functions.

	<b>Physical</b>	<b>Remote</b>	<b>Hybrid</b>
<b>Self, decentralized</b>	Own	Digitally Own	Semi-Digitally Own
<b>Self, captive shared services</b>	Own and Exotic	Digitally Own and Exotic	Semi-Digitally Own yet Fully Exotic
<b>Outsourced</b>	Own but not Own	Digitally Own but not Own	Semi-Digitally Own but not Fully Own

Figure 1: Matrix of Models Available for Structuring Accounting, Auditing, and Finance Divisions

Each of the options (cells) in Figure 1 has a different cost-benefit trade-off, making the decision even more complex for firms. Column 1 – physical is the world most firms have known pre-pandemic. Firms across industries have outsourced AAF functions, such as Boeing in aviation, Ford in automotive, Falck in healthcare, and Mondelez in food and beverages.<sup>1</sup> Many others like Syngenta, Coca-Cola, and more recently GlaxoSmithKline have moved from outsourcing to captive shared services models.<sup>2</sup> The focus for firms was cost savings, and this was almost always achieved through a reduction in variable costs of the AAF division by reducing the number of employees or the cost per employee.

As the pandemic hit, firms were hurled from the physical world (column 1) to the remote world (column 2 in Figure 1). Many factors led to large-scale chaos initially. These factors included simple aspects like employee access to resources such as workspace, equipment, software, and internet and more complex aspects like security, quality of work, company culture, and employee welfare. The remote access to software applications, sensitive data, and the resultant need for security and quality checks complicated AAF functions further. In response, firms became agile almost overnight with large scale investments in technology and remote working. Checks and balances became technology-driven, and systems set thresholds, a regular feature of the AAF functions. Fixed costs were seeing new highs.

Numerous benefits have been enabled by the investments made in technology. Pre-pandemic inertia pushed companies to seek cost savings only through a reduction in variable costs. In trying to maintain lower operating leverage, firms ignored the larger benefits that would accrue from one-time fixed costs incurred in automating processes and adopting technology. The pandemic has ushered in a sea change in the way AAF divisions use

<sup>1</sup> Examples: <https://infotechlead.com/bpo/genpact-signs-bpo-deal-with-boeing-company-34804>, <https://www.31west.net/blog/5-biggest-us-companies-offshore-india/>, <https://www.wipro.com/newsroom/press-releases/2018/falck-awards-contract-to-wipro-to-transform-its-finance-operations/>, <https://www.genpact.com/about-us/media/press-releases/2018/genpact-and-mondelez-co-innovate-to-transform-operations-for-growth-through-insights-from-finance-data>

<sup>2</sup> <https://www.hfsresearch.com/research/syngenta-capgemini-bring-their-people-together-advance-operations/>, <https://sharedservicesforum.in/the-syngenta-digital-journey/>, <https://www.capgemini.com/ca-en/client-story/coca-cola-enterprises-achieves-major-cost-savings-through-finance-optimization-project/>, <https://economictimes.indiatimes.com/industry/healthcare/biotech/pharmaceuticals/gsk-mulls-tech-captive-in-india-may-reduce-outsourcing-to-indian-it/articleshow/76875129.cms?from=mdr>

technology and data. From being a crutch that supported certain functions, technology has become the backbone of AAF divisions. Firms, therefore, find themselves in a better position post the pandemic, enjoying lower than ever running costs and higher than ever efficiency, having been forced to upgrade technology significantly.

As the dust settles, firms are waking up to the benefits of technology even within AAF divisions. They have also begun contemplating the return of AAF personnel to the centralized physical workplaces. Going forward, what are the benefits and costs associated with remote work for AAF functions? Can the hybrid model help improve the trade-off? What is the future of AAF divisions and the profession?

Reporting personnel are an essential input in the reporting process, as has been highlighted by multiple policy frameworks globally (IAASB, 2014; PCAOB, 2013, 2014). Therefore, personnel competence is essential in ensuring reporting is compliant, timely, in conformity with standards, adequate with respect to disclosures, and done within an effective internal control system. Competence here is a confluence of not just knowledge, skills, and experience but also values, ethics, and attitude. Reporting personnel competence impacts their quality of work and this in turn, affects the quality of financial reporting. The big question then is, what affects the competence of AAF personnel, i.e. the AAF division, involved in the reporting process?

The recent literature on AAF personnel highlight multiple factors that affect output quality including tone at the top, incentives, recruiting, retention, training, workload, and work-life balance (see Khavis and Krishnan, 2021; Knechel et al., 2013). All such factors affect employee motivation, satisfaction and productivity, and hence the quality of work. However, this literature, though increasing in importance, has remained limited to studying personnel within accounting and audit firms (Christensen et al., 2021; Khavis and Krishnan, 2021; Hermanson et al., 2016). This creates a massive discrepancy in our understanding of AAF divisions and personnel and their association with reporting quality for two key reasons.

Firstly, as of 2020, while the Big 4 accounting/auditing firms employed about 1.1 million people worldwide (Statistica, 2020), there were about 1.3 million accountants and auditors employed in the United States alone! (Statistica, 2021) Secondly, AAF in Big 4-like firms belong to profit centres – divisions or segments of a firm that generate revenue or add directly to the firm's bottom line. In comparison, AAF divisions in non-accounting/auditing firms are cost centres – divisions or segments of a firm that do not generate revenue or directly contribute to profits. Still, its operation requires the firm to incur costs. Thus, what we know from extant literature is limited and unrepresentative.

Being a cost centre (as opposed to a profit centre) comes with its own set of challenges. These include remaining cheap or within budget, relevant, and efficient. These challenges became evident when the outsourcing wave took these divisions by storm. Outsourcing back-end operations (particularly AAF) became a popular choice among businesses trying to reduce their overheads. Most day-to-day accounting and reporting functions like payroll processing, management of accounts receivables and payables, filing taxes, making payments, preparing financial

statements, balancing and reconciling ledgers, bookkeeping, internal controls, and auditing have been transferred to third-party service providers in low-cost economies. This outsourcing helped save costs (often up to 60% savings) and time and allowed firms to concentrate on core activities. This transfer also provided easier access to accounting/auditing and automation/technology experts and made scaling easier. However, these benefits were accompanied by a bundle of hidden costs/risks, including lack of control and agility, communication and quality issues, pricing issues led by forced roles of consultants, and most importantly, impact on company culture and employee disengagement.

Navigating these trade-offs in outsourcing revealed to companies a newer solution and started the shared services wave for AAF services. Traditionally, shared services involved setting up dedicated and centralized units for AAF services in-house in a way that enabled resources to be leveraged across the entire firm. The shared services unit promoted standardization and automation and operated as a business within a business. Many firms adopted the shared services model to reduce costs, instead of outsourcing. It helped keep control and maintain quality, but the cost savings were limited. The outsourcing wave brought about an innovative tweak to the shared services model. The new shared services model created a centralized in-house unit within the firm but now set up the unit in low-cost economies. Creating such captive shared service centres (wholly-owned subsidiaries in offshore locations) brought in cost savings, access to a larger talent pool, more security, and more quality control. This enabled firms to realise many of the benefits of outsourcing without the additional costs of outsourcing. Most importantly, reporting personnel in this evolved model were in-house and the shared services were mapped to company culture, and this largely helped improve employee motivation and reduce attrition. Since own employees were more motivated, less overworked, and less stressed than employees of third-party vendors, it enhanced work quality.

All of this was in a pre-pandemic world.

The recent shock that has forced remote work and many benefits have arisen from this shift to remote work. Firms have experienced immense cost savings and foresee even more savings. With their employees working from home, firms directly save on lease rentals, furniture and fittings, electricity, additional services like food and beverages, hospitality, cleaning, maintenance, and transportation. Indirectly, work from home has been found to increase employee productivity with transportation time and office breaks being added to working hours and meetings becoming more to-the-point and efficient. Surveys have also shown employees benefiting from better work-life balance, lesser commute stress, location independence, and more flexible work timings (see Cassel, 2020; Courtney, 2020; Pelta, 2020; PWC, 2021). This in turn would enhance productivity and performance.

At the macro level, remote work has meant reduced emissions and lesser traffic jams. Working from home also enables more inclusivity and diversity by making available employment opportunities to less mobile populations, including women, differently-abled, caregivers, and people from different socio-economic, cultural, and geographic backgrounds. This would also increase the potential talent pool. The ability to work from anywhere

would reduce the need for migration and, therefore, lower overcrowding in cities that have become corporate hubs. The better work-life balance would also mean a greater ability to be caregivers, for children and the aged, increasing overall quality of life.

However, working from home also comes with its share of costs. The flip side to a firm's cost savings is the hit to revenue of related sectors like real estate (almost 40% of leases are office leases) and indirect employment in related services like hospitality, food and beverages, and maintenance. Working from home or from anywhere will mean different lived experiences of work for each employee. Remote work has also been associated with lesser innovation and creativity, thus lowering firm performance and growth in the long run. It also dilutes organizational culture and may negatively affect employee welfare and, consequently, productivity and quality of work. In the AAF space, many of these issues will magnify since security and quality issues are critical. Employee trust is essential to control security issues and ensure compliance (Smith, 2005; Skinner and Spira, 2003) but trust will be harder to build and maintain in a remote world where employee engagement becomes difficult. The focus will also shift from standardization to customization in reaching out to remote locations and the supply chains and processes required to keep the shared services functional will have to be structured accordingly. This will increase costs further.

Can the hybrid model then be a solution? Maybe and probably more so for AAF divisions. In a more digitally transformed world, a workable solution will need firms to restructure themselves and define roles that are critical (and need physical presence) and those that can be done remotely. Firms will also have to incorporate employee choices in deciding on the pattern and place of work. Recent surveys and incidents have shown that employees prefer working remotely and are even willing to take pay cuts to continue working remotely or quit if the flexibility is taken away. Return to office policies will have to be carefully drafted to emphasize balance and flexibility while ensuring equality in opportunities, growth, and engagement for all employees irrespective of whether they work from home or return to the office. For the best fit solution, firms may also have to tinker with more innovative solutions like blockchains for enhanced security and cloud-shoring for greater reach. Firms will also have to increase their focus on the role of technology, automation, use of data in reporting, and enhance access to reporting tools to ensure quality. Firms and especially their Accounting, Auditing and Finance divisions must embrace a more, if not completely, digital way of working!

## References

- Cassel, D. (2020). *GitLab's Timely Survey Explores the Benefits of Working from Home.* <https://thenewstack.io/gitlabs-timely-survey-explores-the-benefits-of-working-from-home/>
- Christensen, B. E., Newton, N. J., & Wilkins, M. S. (2021). How do team workloads and team staffing affect the audit? Archival evidence from US audits. *Accounting, Organizations and Society*, 101225.
- Courtney, E. (2020). *The Benefits of Working From Home: Why The Pandemic Isn't the Only Reason to Work Remotely.* <https://www.flexjobs.com/blog/post/benefits-of-remote-work/>
- Hermanson, D. R., Houston, R. W., Stefaniak, C. M., & Wilkins, A. M. (2016). The work environment in large audit firms: Current perceptions and possible improvements. *Current Issues in Auditing*, 10(2), A38-A61.
- International Auditing and Assurance Standards Board (IAASB). 2014. *A Framework for Audit Quality Key Elements that Create an Environment for Audit Quality.* Available at: <https://www.iaasb.org/system/files/publications/files/A-Framework-for-Audit-Quality-Key-Elements-that>Create-an-Environment-for-Audit-Quality-2.pdf>
- Khavis, J. A., & Krishnan, J. (2021). Employee Satisfaction and Work-Life Balance in Accounting Firms and Audit Quality. *Auditing: A Journal of Practice & Theory*, 40(2), 161-192.
- Knechel, W. R., Krishnan, G. V., Pevzner, M., Shefchik, L. B., & Velury, U. K. (2013). Audit quality: Insights from the academic literature. *Auditing: A Journal of Practice & Theory*, 32(Supplement 1), 385-421.
- Pelta, R. (2020). *FlexJobs Survey: Productivity, Work-Life Balance Improves During Pandemic.* <https://www.flexjobs.com/blog/post/survey-productivity-balance-improve-during-pandemic-remote-work/>
- Public Company Accounting Oversight Board (PCAOB). 2013. *Audit Quality Indicators – Discussion.* [http://pcaobus.org/news/events/documents/05152013\\_sagmeeting/audit\\_quality\\_indicators.pdf](http://pcaobus.org/news/events/documents/05152013_sagmeeting/audit_quality_indicators.pdf)
- Public Company Accounting Oversight Board (PCAOB). 2014. *A Call to Action for Future Auditors.* [https://pcaobus.org/News/Speech/Pages/03282014\\_BAS.aspx](https://pcaobus.org/News/Speech/Pages/03282014_BAS.aspx)
- PWC. (2021). *It's time to reimagine where and how work will get done - PwC's US Remote Work Survey.* <https://www.pwc.com/us/en/library/covid-19/us-remote-work-survey.html>
- Rana, A. (2021). *In house vs. Outsourced Accounting: The War Continues in 2020.* <https://www.cogneesol.com/blog/in-house-vs-outsourced-accounting/>
- Skinner, D., & Spira, L. F. (2003). Trust and control—a symbiotic relationship?. *Corporate Governance: The international journal of business in society.*
- Smith, G. (2005). How to achieve organizational trust within an accounting department. *Managerial Auditing Journal.*
- Statista Research Department, Feb 16, 2020. *Number of employees of the Big Four accounting / audit firms worldwide 2020.* <https://www.statista.com/statistics/250503/big-four-accounting-firms-number-of-employees/>
- Statista Research Department, Apr 7, 2021. *Number of accountants and auditors employed in the U.S. 2012-2020.* <https://www.statista.com/statistics/317587/number-of-accountants-and-auditors-employed-us/>

\*\*\*\*\*

# Sustainable Development and Business – An Introduction to the What and the How

## Shankar Venkateswaran



*Shankar Venkateswaran is an IIMC alumnus of the 17th Batch (1980-82) and a recipient of Distinguished Alumnus Award in 2020 for his outstanding contributions in the arena of Social Development and Corporate Responsibility. He has over 33 years of experience in the corporate and social development sectors. The initial 12 years of his career were in management consulting, working with A F Ferguson & Co. (now Deloitte). He then moved to the development sector, where he spent 15 years in various positions at not-for-profit organisations including Action Aid. In 2012, he joined PwC as Director, where he advised several companies on sustainability strategy and reporting. In 2017, he retired as chief of Tata Sustainability Group. He is one of the founding members of ECube Investment Advisors, an ESG (environment, social and governance) platform launched in January 2019. He is an amateur stage actor, an enthusiastic weekend tennis player and occasionally dabbles in writing.*

### Putting sustainability in perspective

Till a few decades ago, CEOs believed that the factors that determine business success were business strategy, market share, product innovation, and financial and human resources, to name a few. The potential for environmental and social factors to impact business success was not on the radar. These factors were neither discussed in business schools nor reflected in organisational structures.

The idea of sustainable development became more widespread post the 1992 UN Conference on Environment and Development. Many believe that its adaptation to a business context was first done by John Elkington's postulation of a "Triple Bottom-line", often referred to as TBL or the 3Ps – People, Planet, Profits. Elkington's proposition, simply translated, meant that going forward, business success would be as much about managing traditional business factors mentioned above as it would be about managing environmental and social (E&S) issues. These issues include pollution, human rights, safety, and climate change, among others. This idea is now referred to as "sustainability" in business parlance.

This article highlights the inexorable sustainability trends that businesses are encountering and will encounter, which will no longer make "business-as-usual" an option. It also exhorts managers to understand and embrace

this reality of sustainability and act on it. Whether this action will be incremental or transformative would depend upon them. And their companies.

## Sustainability issues determining business success

Globally, several sustainability factors will drive the sustainability agenda, five of which are discussed here.

### 1) Informalisation of labour and Human Rights

Outsourced business models have given rise to a mushrooming of long and global supply chains chasing low labour costs. This has resulted in suppliers setting up “sweat-shops” that hire workers without formal contracts. Human rights violations relating to wages, conditions of work, use of child/forced labour, and so on abound as do accidents such as the fire in Rana Plaza in Bangladesh in 2013 (BBC 2013). More recently, the plight of migrant workers in India post the COVID 19 lockdowns in March 2020 (The Indian Express 2020) highlight the vulnerability of workers, many of whom work in supply chains.

The impacts on business success are self-evident. Reports about these sweatshops invited a backlash from several stakeholders: customers, civil society and human rights activists and in a few cases, the workers themselves, while regulations tightened. The plight of migrants brought home the fact that businesses with long supply chains were extremely vulnerable to disruptions.

### 2) Inequality

Credit Suisse’s annual wealth reports (CreditSuisse 2021) and Oxfam’s annual inequality reports (Berkhout, Galasso, Lawson, Morales, Taneja, and Pimentel 2021) speak to not just the extent of inequality but also its growth. COVID has tragically pushed many people back into poverty, and Oxfam’s research suggests that the rich have simply become richer and at a faster rate. Inequality, of course, takes different forms, and economic inequality is often a manifestation of social conditions. A more universal one is gender, where women and the LGBTQ community do not have equal opportunities. In many “white” dominated countries, the “blacks” and the “coloured” get discriminated and the Black Lives Matter movement is a response to this.<sup>1</sup> In India, there is identity-based discrimination, and Dalits, Adivasis and Muslim minorities are often the victims.

Businesses have long been aware that any form of social unrest can never be good for business. The shutting down of a company’s bauxite mines in Odisha and its copper smelter in Tamil Nadu, agitation over the land acquisition for an automotive plant in West Bengal and the shutting down of soft drink facility in Kerala are extreme examples of the risks. Businesses may not be the sole cause of inequality, but as a beneficiary of the economic system, they are certainly targets.

---

<sup>1</sup> To know more about the Black Lives Matter movement, please see <https://blacklivesmatter.com/>.

### 3) Climate Change

The science is clear – human beings are responsible for emitting greenhouse gases, and a  $1.5^{\circ}\text{C}$  in mean earth temperatures rise by the turn of this century over pre-industrial times will have irreversible negative consequences for life on planet earth. The urgent need to “mitigate” or reduce greenhouse gas emissions to “net-zero” by 2050 and the key role of businesses is clear. At the same time, businesses also recognise the need to ready themselves for the short-term consequences of climate change such as flooding of coastal assets due to sea-level rise, production and supply chain disruptions due to water shortages, worker productivity losses due to heat conditions, and so on. Therefore, business-as-usual is not an option.

### 4) Pollution

The dangers of pollution, despite being well understood, have been growing over the years. Air pollution caused by emissions from industrial processes, automobile exhausts, construction and, in northern India, from burning of agricultural waste has meant that 14 out of the 20 most polluted cities in the world are from India. Over 60% of India’s rivers are polluted and their waters are not fit for drinking. Solid waste from industrial processes has always been a cause for concern but with increasing consumerism, the solid waste that is of most concern is plastics used in packaging, many of which are finding themselves in oceans and in the digestive systems of ruminants. Like Climate Change, what makes the issue of Pollution, especially air pollution, of universal concern is that it knows no socio-economic boundaries.

### 5) Resource scarcity

A fifth factor that businesses have begun to understand is the growing scarcity of natural resources, both renewable ones like water but also non-renewable ones like minerals and ores. Ehrlich-Holdren’s IPAT equation of the early 1970s elegantly suggested that in a business-as-usual scenario, human impacts on nature are directly related to population, affluence, and technology (Holdren 1993).

By July 29, 2021, humanity used ecological resources and services that the Earth can regenerate in a full year, indicating that we need almost one-and-a-half earths to support our consumption needs. The American Chemicals Society publishes lists of endangered elements and estimates that we will soon run out of 44 of the 118 elements in the periodic table by the turn of the century (ACS Green Chemistry Institute 2021). These include rare earths, precious metals, and life-giving elements like phosphorus.

It is obvious that prospecting newer sources of raw material at the cost of biodiversity and the rights of indigenous people cannot be the answer. It has to lie in low-carbon, energy-efficient technologies and humanity quickly learning to reduce consumption.

## Stakeholders driving the sustainability agenda

In 2019, the influential Business Roundtable consisting of the CEOs of the major US corporations released a Statement on the Purpose of a Corporation (Business Roundtable 2021), where they stated that they “share a fundamental commitment to all of our stakeholders”, thus reversing the Milton Friedman dictum that investor is king! The change is only a reflection of the growing influence of all stakeholders as can be seen below from their sustainability actions:

- Investors see sustainability as both significant risk and an opportunity. They are asking companies to report their performance on sustainability and have begun to use sustainability performance to invest in – or divest from – companies. They are closely involved with all major global disclosure frameworks such as the Global Reporting Initiative (GRI), Integrated Reporting (IR), Sustainability Accounting Standards Board (SASB), the Task Force on Climate Related Financial Disclosures (TCFD) and CDP (formerly, the Carbon Disclosure project) to name five.
- Retail customers have long been in the forefront through their buying preferences, pushing companies to conduct themselves responsibly. It is, therefore, no surprise that B2C (business to customer) companies were quick to adopt and mainstream the sustainability agenda and extending it to their supply chains.
- Regulations ensure a level playing field to all businesses, independent of their size, sector, etc. They are driven both by local pressures and compulsions (as discussed above) and global covenants, and there is every indication that these will only get tighter. Indian regulations too are getting tighter, especially in the environment space, as has been non-financial disclosure mandates for listed companies by the stock exchange regulator.
- The other stakeholders, too, have got more active and influential. Communities, supported by a strong civil society, active media and political movements, have begun to assert themselves. Employees, especially millennials, prefer to join and stay with companies that care, and this is beginning to be seen more and more in India too.

## A Manager's Action Agenda for a Sustainable Future

So how are businesses responding to these trends and stakeholder expectations? What should the managers do to be prepared for a future where impacts of sustainability issues on business, and vice versa, are only likely to increase, impacting long-term business success? Here are some thoughts, based on the current and emerging global good practices.

### Proactively engage with stakeholders and understand their expectations

Clearly, it is very important for companies to proactively engage with stakeholders and understand their expectations, both current and emerging. While it may be argued that departments do engage with their stakeholders, these interactions need to move from the transactional to also include relevant sustainability issues. AccountAbility Standard Board's AA1000 SES is a globally accepted stakeholder engagement standard that companies could use (AccountAbility 2015).

### Study and predict trends in regulation and disclosures

Mention was made earlier of how sustainability-related regulations and disclosures are getting tighter and comprehensive across the world. Following these carefully and being able to predict their pace (the direction is quite clear) is important for companies to ready themselves for the future. Companies need to make serious investments in research and gain insights across countries and jurisdictions of relevance. Membership of Indian and global business associations – both sectoral and cross-sectoral – that track these trends is a good way to keep abreast and ahead of the changes.

### Identify material sustainability issues and KPIs and set ambitious targets

The most important first step in a company's sustainability journey is to identify its "material" issues. In essence, there is a limited set of key sustainability issues that potentially have the greatest impact on its success. Therefore, a company needs to embed these issues into its core business strategy, regularly track them, invest in them, and disclose its performance on the issues to all its stakeholders. A good practice is to refresh these material issues every 3-5 years through continuous stakeholder engagement and keeping an eye on regulatory changes. In addition, companies must periodically track all issues so that non-material issues do not unexpectedly become material.

Identifying Key Performance Indicators (KPIs) for each material issue and setting ambitious targets is at the heart of a company's commitment to sustainability. Some examples of the kind of KPIs companies use for each of the 5 factors mentioned above include:

1. Informalisation of workers and Human Rights: Proportion of suppliers covered by codes and standards; Existence of grievance redressal mechanism; Number of grievances received and proportion resolved; Fines paid due to violations.
2. Inequality: Gender and identity break-ups amongst different levels and categories of employees including contract/casual labour and in supply chains; Wage parity across gender and identity groups.
3. Climate Change Mitigation: GHG emissions – absolute and per unit of production; Percentage of Renewables in the energy mix; Energy Productivity in terms of energy per unit of production. A KPI (and target) that is becoming very widespread is achieving net-zero GHG emissions by a specific year.

4. Pollution: Non-GHG emissions – absolute and per unit of production; Solid Waste to landfill (zero); Zero Liquid Discharge (also zero or ZLD); plastics usage – absolute and per unit of product.
5. Resource usage: Fresh Water consumption – absolute and per unit of production; Percentage of recycled material in a product.

### Invest in R&D and sustainability enhancing technologies

Inevitably, the achievement of ambitious targets and tighter regulations, especially in the environment space, comes with increased investments in R&D and clean technologies. This requires businesses to work closely with equipment suppliers to ensure that they are current and making necessary investments. As an example, steel and cement companies are focusing on hydrogen and carbon capture, while automobile and utility companies are keeping an eye on storage technologies.

Being sustainable also brings R&D and product development functions to the centre stage and is an essential component of a circular economy. This is especially the case when much of the negative environmental impacts are after the products are sold (automobiles, air conditioners, washing machines, detergents for instance), the way they are packaged (finding substitutes for plastic packaging is a very significant emerging business opportunity), and how easily the material can be recovered at the end of life. The last has started gaining much traction when it was realised that many products are not designed for easy disassembly, thus making material recovery uneconomical.

### Address resource scarcity

How are businesses reconciling increasing consumer demand, which is key to growth and profitability, with growing resource scarcity? Several interesting options are being exercised which attempts to solve this.

The first way is by what is referred to as the “shared economy”. Uber and Ola fulfil the need for comfortable, private transportation without having to own a vehicle. WeWork does the same for office space and Airbnb for short-term stays without creating additional office space or hotel rooms. In other words, this is about business models that enable consumption by better utilisation of existing assets. An extension of this is by converting a product into a service. Thus, Philips does not sell bulbs but lumens to Schiphol airport and can use whatever technology it wants and reuse its equipment as long as it provides the lumens. Leasing/renting services are examples where the user gets the equipment only when needed.

The second way is by extending the life of existing assets, an integral part of the Indian culture. Reconditioning of metal components and parts such as engine blocks, auto spare parts, plastic hangers, etc. are examples of this extension of life. Combining IOTs/sensors that can predict failures in components so that these can be replaced before the failure occurs thereby reducing downtimes and inventories ensures functionality without producing more.

The third is by recycling, again a part of Indian culture. There are opportunities to recycle waste from households, construction, food, agriculture, consumer durables, electronic products, garments and plastics. A range of so-called “waste” streams are increasingly being recycled and upcycled such as garments (Patagonia is a pioneer), converting agricultural waste into energy and usable products, fly ash for bricks as well as substituting limestone in cement. Companies are being built with products made of 100% recycled material (Johnson 2018).

A fourth is the use of alternative materials that can reduce the use of non-renewable natural resources. For example, captive plantations of fast-growing species for paper production and as a source of coke in steelmaking. The use of limestone calcinated clays instead of limestone results in a lower carbon footprint.

### Address Human Rights

More and more businesses are beginning to recognise that human rights issues manifest themselves not only in supply chains (where child and forced labour, informalisation and the consequent violations of wages, conditions of work, and safety abound) but also in their own plants and workplaces through contract and causal labour that they employ. Their responses have taken various forms.

For one, many are putting in place stand-alone Human Rights policies that provide the basis to ensure that human rights are “respected” throughout the company, which is one of the key pillars of the UN Guiding Principles on Business and Human Rights (United Nations Human Rights 2011). Also, given the cross-cutting nature of Human Rights, businesses have begun to ensure that these principles are reflected in all policies, covering topics such as sustainability, procurement, human resources etc.

A second action is undertaking what is called a Human Rights Due Diligence (HRDD). HRDD involves evaluating a company’s alignment with the UN Guiding Principles on Business and Human Rights across its operations and value chain and identifying the gaps so that corrective action can be taken.

Recognising the benefits of better trained, compensated and treated workers in the supply chain, their own poor oversight of work conditions beyond Tier 1 suppliers, businesses have begun to integrate sustainability into supply chains. Building on a sustainable supply chain policy, which many leading companies already have in place, companies have begun to act on these policies by:

1. Setting standards/codes that their suppliers are expected to adhere to. These may be their own internal standards or one of several global supplier standards which may be issue-based (such as SA8000 which covers conditions of work) or sector-specific (such as Rainforest Alliance, TrustTea, Fairtrade, etc.) many of whom are members of the ISEAL Alliance.<sup>2</sup>
2. Supporting their suppliers to align themselves with these standards by building capacities, providing technical support and facilitating funding where investments are required.

---

<sup>2</sup> To know more about the ISEAL Alliance, please see [www.isealliance.org](http://www.isealliance.org).

3. Conducting periodic audits of their suppliers, usually through third-party auditors. Many of the global standards referred to above come with audit processes and trained third-party auditors.

While most businesses begin with a select set of suppliers, usually Tier 1, some have begun to look beyond where much of the Human Rights challenges lie.

### Respond to Inequality

The economic benefits of reduced inequality – better-educated workforce, increased customer base to name two – have made businesses more aware of addressing this difficult challenge. The response typically takes two forms. The first is to have affirmative action initiatives that positively discriminate in favour of excluded groups – women of course but increasingly in India, some ethnic groups and the LGBTQ community – but these are few and far between. The second is to through their CSR initiatives, focusing on excluded communities.

### Disclosures

Voluntary reporting frameworks such as GRI, IR, TCFD, and CDP have been around for a while. Additionally, mandatory sustainability reporting is growing (SEBI, India's stock market regulator just announced that the top 1000 listed companies would have to report against the Business Responsibility and Sustainability report from FY 2022-23). While the lack of a single, unified disclosure framework does put a burden on companies, more and more companies are recognising the need to disclose performance using these frameworks.

### Institutionalise sustainability thinking

The last decade has seen the increasing professionalisation of sustainability. More academic institutions are focusing on this, and companies are appointing Chief Sustainability Officers (CSOs). The role of the CSO has also evolved from managing disclosures to greater involvement in strategy as well as engaging all functions not only the traditional ones but also R&D, marketing, and finance.

In terms of governance, too, the change has been rapid. Companies have begun to set up management committees to oversee this function. Large conglomerates have a senior person leading this at the group level also. Boards have begun to notice their company's sustainability performance, some even appointing board committees for this purpose. Publicly disclosed corporate policies covering various sustainability issues, signed off by senior management and the board, are fast becoming the norm.

## **Conclusion**

Companies have also begun to respond to calls for action from various global organisations to commit to sustainability goals like using renewable energy, aligning with science-based targets for emissions, using electric vehicles, and raising energy efficiency. Traditional industry associations have set up functions specialised in

sustainability and new bodies focusing on the subject. As a result, we are witnessing a significant increase in the involvement of companies.

## References

- AccountAbility Standards Board. 2015. AA1000 Stakeholder Engagement Standard.  
<https://www.accountability.org/standards/aa1000-stakeholder-engagement-standard/>
- ACS Green Chemistry Institute. 2021. Periodic Table's Endangered Elements.  
<https://www.acs.org/content/acs/en/greenchemistry/research-innovation/endangered-elements.html>
- BBC. 2013. Bangladesh factory collapse toll passes 1,000. <https://www.bbc.com/news/world-asia-22476774>
- Berkhout, E., N. Galasso, M. Lawson, P. A. R. Morales, A. Taneja, and D. A. V. Pimentel. 2021. The Inequality Virus. Oxfam International Policy Papers. <https://www.oxfam.org/en/research/inequality-virus>
- Business and Human Rights Resource Centre. UN Guiding Principle. <https://www.business-humanrights.org/en/big-issues/un-guiding-principles-on-business-human-rights/>
- Business Roundtable. 2021 The Statement on the Purpose of a Corporation.  
<https://s3.amazonaws.com/brt.org/BRT-StatementonthePurposeofaCorporationJuly2021.pdf>
- CreditSuisse. The Global Wealth Report 2021. <https://www.credit-suisse.com/about-us/en/reports-research/global-wealth-report.html>
- Holdren J. 1993. A Brief History of "IPAT" (Impact = Population X Affluence X Technology).  
<https://mahb.stanford.edu/library-item/a-brief-history-of-ipat-impact-population-x-affluence-x-technology/>
- The Indian Express. 2020. The long walk of India's migrant workers in Covid-hit 2020. December 25, 2020.  
<https://indianexpress.com/article/india/the-long-walk-of-indias-migrant-workers-in-covid-hit-2020-7118809/>
- Johnson A. 2018. 8 Companies That Only Sell 100 Percent Recycled Products . Green Business Bureau.  
<https://greenbusinessbureau.com/blog/8-companies-that-only-sell-100-percent-recycled-products/>
- United Nations Human Rights. 2011. UN Guiding Principles on Business and Human Rights.  
[https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR\\_EN.pdf](https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf)

\*\*\*\*\*

# ESG Investing: Making Money While Doing Good

**Utkarsh Majmudar**



*Utkarsh Majmudar is a professional with over two decades of experience encompassing teaching, research and administration at premier business schools in India (IIM Bangalore, IIM Lucknow, IIM Udaipur etc.) and working with large corporations in India at GE Capital, iGATE and HSBC. Apart from finance, he has done significant work in the area of sustainability – conducting an annual study of the performance of companies on corporate responsibility, working with large companies, publishing cases on sustainability, and writing extensively on the theme. He has co-authored two books. The second book, Shift: Decisions for a Net Zero World, was released recently. Utkarsh is a member of the Board of Governors at IIM Raipur.*

Environmental, Social, and Governance (ESG) funds have grown dramatically. It is estimated that funds with ESG focus have assets under management USD37.8 trillion, which is likely to grow to over USD50 trillion by 2025 (Diab and Adams. 2021). ESG risks are now better understood than ever before. Internationally, large banks have well-capitalized programs with ESG and impact platforms, pay-for-success and green bonds, and toolkits for social capacity building. A study by the European multinational financial services company Allianz found that 64% of millennials were likely to make investment decisions based on societal problems that are important to them (Allianz. 2019) Till recently, many writers felt that ESG investing was a passing fad. That is no longer true. ESG investing has grown its roots firmly.

This article explores the areas of ESG investing. I discuss how incentives are created for ESG investing, financial models/approaches for achieving focus on ESG issues. Finally, I look at the roadblocks that inhibit ESG investing.

## Two key issues in how ESG works

There are two key issues in how ESG works with companies and investors: Agency problem and Information asymmetry and signaling.

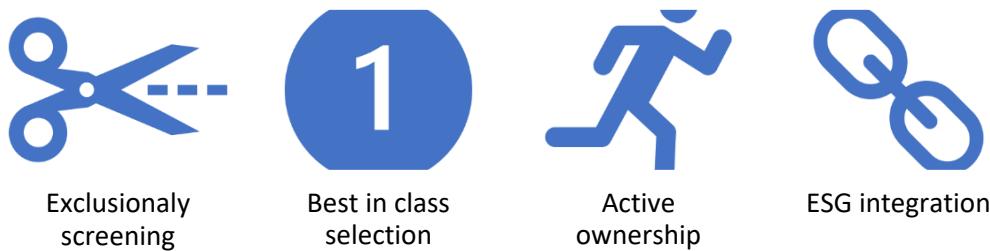
**Agency problem:** There is an inherent conflict between the principal and the agent. The agent often acts in her self-interest rather than in the interest of the principals. Thus, the CEO may often try to maximize her remuneration without ensuring that shareholders' needs are met. Such differences in views could be related to ESG risks. For example, shareholders/owners and CEOs might view ESG risks differently. To mitigate agency

problems, shareholders must draw proper contracts to ensure that the CEO acts in the best interest of the shareholders. Thus, from a company's perspective, focus on ESG actions is contingent upon how CEOs are incentivized to pay attention to the ESG risks that the shareholders are concerned about.

**Information asymmetry and signaling:** Managers/CEO know more about the company's operations relative to everyone else. ESG performance is particularly susceptible to information problems. Hence, companies need to signal that they are good (ESG positive) through communication. There is a risk that companies may signal wrongly that they are good when they are bad. Greenwashing is one such mechanism of signaling virtue. Misleading or wrong signals will eventually be caught out, and their credibility will weaken. This issue is truer today where active investors, whistle-blowers, and social society closely watch every action taken by a company, and information asymmetry is gradually reduced.

## Models of achieving focus on ESG issues

Investment in equities is now increasingly including ESG considerations. There are many models of achieving focus on ESG issues. We discuss four: Exclusionary/Screened Investing, Best-in-class selection, Active Ownership, and ESG Integration.



### 1. Exclusionary/Screened Investing

In screening, we use a set of filters to determine which companies, industries, sectors or activities are eligible or ineligible to be included in a portfolio or fund. The choice of the criteria depends on an investors preferences, values and ethics. There are two types of screens – negative screens and positive screens. For instance, the highest emitters of greenhouse gases may be excluded from the portfolio using a negative screen. Alternatively, only low emitters are included in the portfolio using a positive screen. A third approach is a norms-based screen that determines inclusion or exclusion based on international norms. These three approaches are detailed below (Principles for Responsible Investing. 2021):

**Negative Screening:** Negative screening requires excluding certain sectors, issuers, or securities for poor ESG performance relative to industry peers or based on specific ESG criteria, for example, avoiding particular products/services, regions, or business practices. Negative screening often requires one to avoid companies that

are in businesses like alcohol, tobacco, fur, gambling, pornography, military weapons, fossil fuels, and nuclear energy. Sometimes one does not want to completely avoid business especially for conglomerates. In such cases a materiality threshold (e.g., 10%) is set. The materiality threshold may be based on revenue or profits. A company engaged in a business where tobacco contributes less than 10% of the revenues is investible. Beyond 10% it is not investible. An example of negative screening is Shariah screening. Based on Islamic principles, it excludes investment in gambling, usury, alcohol, etc.

**Norms-based Screening:** Here issues are screened against minimum standards of business practice based on international norms. Useful frameworks include UN treaties, Security Council sanctions, UN Global Compact, UN Human Rights Declaration, and OECD guidelines. A category of norms-based screen is the “controversy screen.” Here companies that engage in unethical behaviour are excluded.

**Positive Screening:** Positive screening is the process of finding companies that score high on ESG factors relative to their peer companies for the sustainable investment portfolios. Active inclusion of companies is done within an investment universe because of the social or environmental benefits of their products, services and/or processes. These investments are made in companies that are transitioning from brown to green, renewable/cleantech companies, and enterprises in social business.

There are three modes of screening/exclusion. In *absolute exclusion*, no investment is made when exclusionary criteria are fulfilled. For instance, an investment manager will not invest in companies involved in fossil fuels or a company found to be violating human rights. In *threshold exclusion*, partial investment is made within a tolerance level. Here ,say, if up to 10% of revenues derived from indirect exposure to fossil fuels one can invest in the company. Beyond 10% investments are not permissible. In *relative exclusion* an investment is made if the company is performing relatively better -- where energy transition has occurred or board diversity has improved, not determined through revenue exposures.

Exclusionary investment has achieved significant success, and its ease of use makes it an ideal candidate for ESG investing.

## 2. Best-in-class selection

Here one looks for companies that are leaders in their sector in terms of ESG factors. There are two ways of evaluating for best in class: on an absolute basis and on a relative basis. When doing selection based *on an absolute basis*, investors compare the company’s ESG ratings with companies across the ESG universe. By contrast, when using the best-in-class selection *on a relative basis*, investors compare ESG ratings/scores with companies with other companies in the same industry.

Investors seek to achieve return and risk profiles similar to traditional investments while integrating material ESG factors in evaluation. This involves applying a higher weight to companies with favorable ESG scores and lower weights to companies with unfavorable ESG scores. While evaluating for the best-in-class, investors often look at ESG quality, distribution of ESG ratings, and ESG ratings momentum. We assess *ESG quality* from the management's ability to manage key risks and opportunities from ESG factors. We assess the *distribution of ESG ratings* by classifying companies into leaders, average or laggards. The distribution of companies in these categories is then considered for decision-making. We assess *ESG rating momentum* by considering the percentage of holdings in the portfolio that has recorded a recent ESG ratings upgrade or downgrade.

Implementation of a best-in-class selection can be done through either of two approaches -- Active or passive. In the *active approach*, managers integrate ESG research into the investment process. Material financial as well as non-financial (ESG) information is identified and goes into the investment decision process. The portfolio managers then choose companies to invest in. This involves selecting companies with the desired ESG factors to reduce long-term risk while generating a sustainable alpha. The primary objective is to earn strong risk-adjusted returns with ESG characteristics being somewhat in the background. This approach is popular in Europe but is gaining ground in North America. Alternatively, investors can use a *passive approach* by investing in several available ESG integrated indices (for example, MSCI ACWI ESG leaders). These indices tend to have static methodologies that adjust the weights of the traditional index constituents based on their underlying ESG ratings. For this strategy, performance has varied in different time periods.

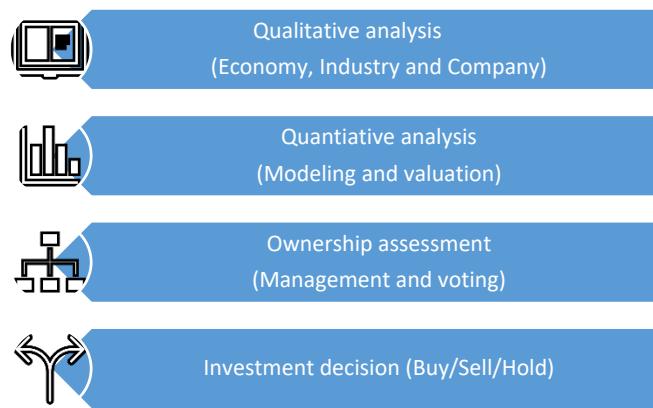
### **3. Active Ownership**

Active owners frequently communicate with companies with ESG issues. They exercise their ownership rights and voice their concerns to bring about a change. They engage with companies to monitor their ESG performance. They may also influence outcomes and ESG practices through their intervention.

An example of active ownership is the recent push by activist investors that have goaded oil companies like Exxon Mobil and Chevron to pay greater attention to their emissions by having resolutions passed in the shareholders meeting and even gained seats on the board.

### **4. ESG Integration**

Unfortunately, the traditional equity research process doesn't take note of the ESG risks discussed earlier. Let us take a look at the traditional equity research process and try and understand where ESG elements can be brought in.



During the qualitative analysis phase, ESG issues impacting the industry and the company can be identified. During the modeling and valuation analysis, ESG risks can be captured in either the discount rate or the cashflows. However, one should be careful not to account for the same risk in both cash flows and the discount rate. While evaluating the management, careful attention should be paid to both management's views on ESG as well as their past track record on dealing with those issues. There are several techniques of integrating ESG in investment decisions.

**Quantitative strategies:** Quantitative (or quant, as they are popularly called) strategies aim to outperform the benchmarks by utilizing data, mathematical models, and statistical techniques. Integration of ESG factors into quantitative models can be achieved through two approaches. In the first approach securities that rank poorly on ESG are assigned a weight of zero. This is based research that links ESG factors to investment risk and/or risk-adjusted returns. In the second approach weights of each constituent of the portfolio is adjusted according to the statistical relationship between an ESG dataset and other factors.

**Smart-beta Strategies:** Both active and passive investment are used in some combination while undertaking smart-beta investing. Here constituents are assigned weights by factors other market capitalisation. Typically there are three objectives – outperform the index, lower the down side risk or increase the dividend yield. Smart beta strategies utilise mathematical weighting models in portfolio construction to generate excess market returns. Alternatively, they can be used to reduce the downside risk and enhance the portfolio's ESG risk profile.

**Passive and enhanced Passive strategies:** Passive investment strategies try to track the returns of a market index, typically a market capitalization index. It could also track a section of the market. To replicate the market many methods are used.

- Full replication methodology requires buying all the constituents of an index.

- Partial replication methodology requires the investment manager to create a subset of stocks within the index. The weights of the selected stocks are adjusted in a manner that the portfolio matches returns from the overall index. This approach reduces transaction costs. However, it also increases the tracking error.
- In another approach derivatives are used to track an index.

Passive strategies can incorporate ESG factors. The exposure to a particular risk factor can be reduced by adjusting weights of the constituents of the parent index. So, stocks with a high ESG risk factor can be given a lower weight and weights of other stocks adjusted accordingly.

Then there are funds that use partial replication approach. These funds have the flexibility of excluding companies with high ESG risk or low ESG ratings. Portfolio optimisation techniques are often used to help minimise the tracking errors of the replicated portfolio.

Additionally, integration techniques can be applied to enhanced passive strategies. As enhanced passive strategies can make active investment decisions such as adjusting index constituent weights and excluding certain stocks altogether to lower downside risk or outperform the benchmark, managers can integrate ESG factors into these strategies.

## Roadblocks to ESG Investing

While ESG finance has been growing there are a number of roadblocks that are slowing down the pace of growth. These include behavioral issues of investors, multiplicity of ESG reporting, risks to ESG investing, repurposed ESG branding, and limited corporate resources for ESG.

**Behavioral Issues:** Bankers are a conservative lot and don't like change. Consequently, they are risk-averse. Unwilling to experiment with newer financing modes, they often take refuge in exclusionary screening. This approach is simple and makes them look good too. Besides, there is a behavioral tendency amongst human beings to focus on the present and discount the future. Furthermore, there is an intent-action gap between what new investors say they want and how they actually invest. This gap can be explained by inertia because sustainability/ESG funds usually require investors to choose them.

**Multiple reporting documents:** ESG reporting is a mess. Multiple documents report on ESG issues are available in annual reports, sustainability reports, integrated reports, and corporate websites. Thus, making an informed decision about the ESG actions of a company is extremely difficult. There are multiple documents, and often different documents report the same statistic differently making analysis a headache.

**Risks:** There are risks involved that inhibit the growth of ESG finance. First is the risk of stranded assets. Large loans are outstanding against current investment in non-sustainable technologies. Should companies be allowed

to keep these “bad” assets in their portfolio, or should they be asked to divest are questions that most bankers grapple with. With ESG growing, these assets could become stranded and bankers would have to worry about writing them off. At the same time, new investments would require funding from the same banks, which would also be risky. This issue is exacerbated by the fact that pandemic has resulted in significant cash flow disruptions for companies making banks wary about the repayment capability of their customers. The pandemic gets over in a year or two, but bankers would be on their guard for unforeseen events in the future – quite like focusing on the present and discounting the future described earlier.

**Repurposed branding:** Many existing funds are being renamed into “ESG funds.” While it helps the fund manager creating a portfolio of funds in the sustainability segment, there is increasing worry that these rebranding are being undertaken without any substantive change in their composition. Some are calling this practice “green washing” or “impact washing.” Such practices create a false impression about their ESG credentials causing confusion in the minds of investors.

**Limited Corporate resources for ESG:** Large companies tend to have significant resources to manage their ESG issues. However, small- and-medium sized firms have neither the resources nor the capabilities to deal with ESG issues. This makes it difficult to bring these companies into the ESG fold.

The juggernaut of ESG investing rolls on creating a momentum that will help make the world a better place. As knowledge grows and information gaps reduce ESG investing will become better and meet society requirements. The competitive advantage that early movers are reaping today will gradually disappear with the differentiation between ESG funds and non-ESG funds disappearing. That may take many decades. Till then ESG investing will rule the roost.

## References:

Diab A. and G. M. Adams. 2021. ESG assets may hit \$53 trillion by 2025, a third of global AUM. Bloomberg Intelligence. <https://www.bloomberg.com/professional/blog/esg-assets-may-hit-53-trillion-by-2025-a-third-of-global-aum/>

Allianz Global Investors. 2019. Socially Responsible Investing: A unique approach to harnessing ESG analysis, Web article, accessed September 7, 2021, <https://us.allianzgi.com/en-us/institutional/sustainability/sustainable-ideas/socially-responsible-investing-a-unique-approach-to-harnessing-esg-analysis>

Principles for Responsible Investing. 2020, An Introduction To Responsible Investment: Screening, Web article, accessed September 7, 2021, <https://www.unpri.org/an-introduction-to-responsible-investment/an-introduction-to-responsible-investment-screening/5834.article>

\*\*\*\*\*

# FinTech – Will it Contribute to Financial Inclusion?

**Ujjal Choudhury**



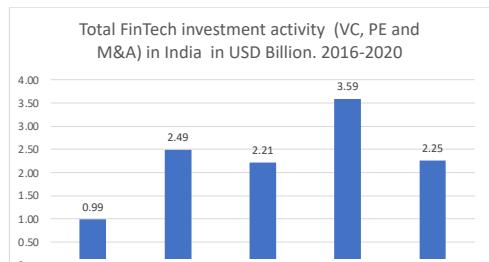
*Ujjal Choudhury is a BFSI professional with nearly 44 years of professional experience. He has worked with financial institutions and advisory services firms in India and abroad and currently works as an independent consultant in the areas of development, strategy and operations, and risk management with development partners. He is a graduate of the first batch of IIMC's Certificate Program in General Management (1981-83); and later obtained his PGDBM from IIMC in 1995.*

Over the last quarter of a century, developments in technology and infrastructure have brought about a sea change in the way financial transactions are carried out – worldwide and in India. Recent times have seen a lot of conversation about FinTech – its adoption, range of services provided, and the investments attracted by service providers. The overarching theme of this article is whether the current FinTech boom contributes to financial inclusion in India.

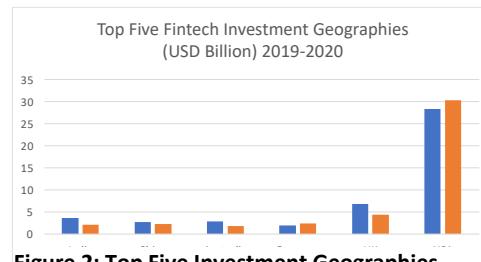
The issues highlighted here can be refined further to answer specific research questions and formulate policies to ensure that FinTech becomes an effective enabler for greater financial inclusion. The concept of FinTech in the article encompasses all financial transactions transacted through non-brick and mortar channels.

## *Dashboard of Fintech in India*

Over the last five years or so, FinTech has grown exponentially both on the demand and the supply sides. According to Boston Consulting Group (BCG, 2021), 67% of the 2100+ FinTechs in India today were set up during this period while the industry raised more than USD 10 billion (see figure 1). The total valuation of the sector in 2020 is estimated to be between USD 50-60 billion. Figure 2 shows that India has overtaken Australia to reach the top 5 FinTech investment destinations (BCG, 2021).



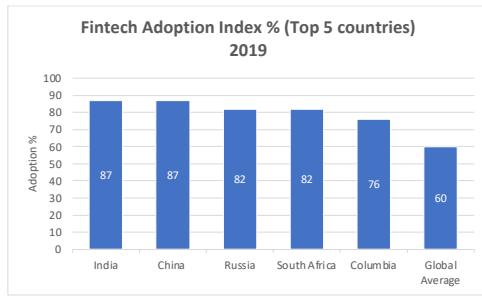
Source: Pulse of FinTech .KPMG.  
home.kpmg/fintechpulse



Source: India FinTech: A USD 100 Billion Opportunity.

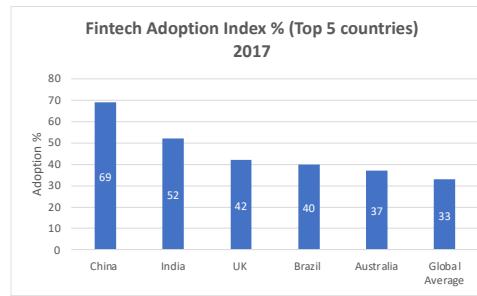
Figures 3 and 4 indicate Fintech adoption rates among the top 5 countries based on data from EY (2019). India's FinTech Adoption Rate in 2019, along with China, is the highest globally, up by about 25% from 2017 (EY, 2019, p. 7; 2017, p. 7).

My first question was whether this surge in technology use trickles down to the bottom of the pyramid.



**Figure 3: Fintech Adoption Index 2019**

Source: *Global FinTech Adoption Index 2019*. EY.



**Figure 4: Fintech Adoption Index 2017**

Source: *Global FinTech Adoption Index 2017*. EY.

### *The concept and relevance of financial inclusion*

Financial inclusion broadly covers universal access to a range of useful and affordable financial products and services that meet the needs of individuals and businesses – transactions, payments, savings, credit and insurance, pension, and equity – delivered responsibly and sustainably. In India, the access to these services by vulnerable groups has been particularly emphasised.

Various studies have established a direct correlation between financial exclusion and poverty and its strong positive impact on overall economic development at the national level. It also supports seven of the seventeen Sustainable Development Goals (SDG). The World Bank Group set an agenda for Universal Financial Access by 2020 (UFA2020), providing access to financial services to an additional one billion adults.<sup>1</sup>

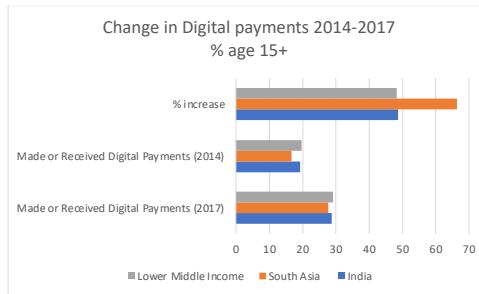
### *Financial Inclusion in India*

Although there is no composite index for financial inclusion, the Global Findex Database uses a set of select metrics to provide ‘a rigorous, multidimensional picture of where we stand and how far we have come in expanding access *for all* to the basic financial services people need to protect themselves against hardship and invest in their futures’ (Demirgüç-Kunt et al., 2018, p.xi).<sup>2</sup>

<sup>1</sup> ufa.worldbank.org

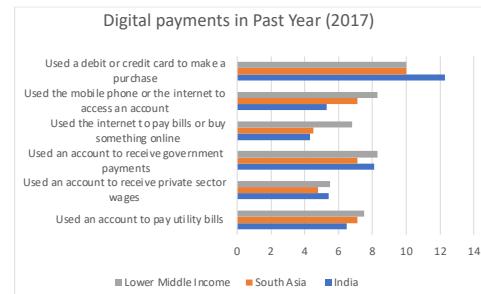
<sup>2</sup> The database, the full text of the report, and the underlying country-level data for all figures—along with the questionnaire, the survey methodology, and other relevant materials—are available at <http://www.worldbank.org/globalfindex>. *The Little Data Book on Financial Inclusion 2018* (World Bank Group, 2018) presents key findings from the Global Findex database.

The Digital payments metric, one of the critical indicators, shows that Financial Inclusion in India should improve significantly to achieve its stated policy objectives. Figure 5 indicates that India's digital payments are growing at a rapid pace of about 50% per year, on par with Lower middle-income countries but behind South Asian countries. About 30% of Indians and the two reference groups had access to digital payments by 2017. Figure 6 indicates the different uses of digital payments.



**Figure 5: Change in Digital payments 2014-2017**

Source: *The Little Data Book on Financial Inclusion*. 2018



**Figure 6: Digital payments in Past Year 2017**

Source: *The Little Data Book on Financial Inclusion*. 2018

My overall question was whether Fintech can help in closing the gap between the aspirations and achievements. Since only 30% were using fintech in 2017, my second question was who are the segments of the 70% of Indians excluded from Fintech?

### *The people FinTech have bypassed*

To explore the width and depth of financial inclusion, I have considered three cohorts that should be included in the mainstream for well-distributed economic growth. The key concern is whether the “FinTech Revolution” in India contributes to the financial inclusion of these cohorts in the technology-enabled space. In the present context, financial inclusion also involves operational convenience for easier access and usage through technology platforms.

First, the population at the Base of the Pyramid. For the sake of benchmarking, the filter of 2 Dollars a day would be a good starting point. It roughly translates to Indian Rupees 4,500 per month at current exchange rates – an income level at which people would carry out a reasonable number of financial transactions. However, the Global Findex database shows that in 2017 only 3% of the poorest 40% used a mobile phone or the internet to access an account against 7% for the richest 60%. For debit card ownership, the gap is even wider and has increased over time (see Table 1).

Table 1: The income divide of debit card ownership (global)

Year	Debit card ownership, income, poorest 40% (% age 15+)	Debit card ownership, income, richest 60% (% age 15+)
2011	3	12
2014	11	30
2017	17	43

*Source: The Global Findex Database. 2017*

The methodology for the FinTech Adoption Index comprises a survey of a sample of 27,103 consumers in 27 markets. A FinTech adopter is someone who has used two or more “buckets” of services, since this indicates a habitual change in behaviour in a way that use of a single service does not. A bucket consists of a major FinTech service, or two or more related services, such as online stockbroking and online investment advice (EY, 2019, pp. 6,18,19).<sup>3</sup>

The adopters, therefore, are consumers with adequate financial means for using multiple buckets of services. Clearly, this does not include those at the bottom of the pyramid who would not have the means to use more than one bucket. Therefore, the level of FinTech adoption in this cohort needs to be looked into and adoption accelerated to promote financial inclusion.

Second, the women constituting 56% of the unbanked globally and overrepresented among the unbanked in most economies (Demirguc-Kunt et al., 2017, p. 4). They are excluded from the mainstream of financial transactions though often having independent incomes of their own. A spinoff from empowering women through appropriate enablers to carry out their own financial transactions would allow them an agency in household expenditures. This in turn would facilitate the achievement of SDG (5) of achieving Gender Parity.

As part of the COVID stimulus package, three instalments of Rs. 500 each were transferred to women holding basic savings accounts opened under an initiative to promote financial inclusion. It has been reported that “During

---

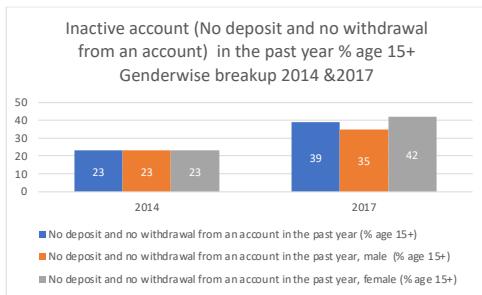
<sup>3</sup> The bucket categories are Money transfer and payments; Budgeting and financial planning; Savings and investments; Borrowing; and Insurance. It's worth noting that the Savings and Investments bucket does not include the usual plain vanilla savings and deposit accounts but more sophisticated products such as Lending on peer-to-peer platforms; Investment via crowdfunding platforms; Online investment advice and investment management; Online stock broking; and Online spreadbetting. (EY, 2019. p. 19).

April (2020) as many as 20.05 crore such account holders received Rs 500 each in their accounts as the first instalment.”

However, of the Rs. 10,300 crore deposited in April and May, on an average, only Rs 3,000 to Rs 4,000 crore was withdrawn each month. This resulted from accounts being inactivated since these were not being used. The most common reasons for this have been limited connectivity to accounts, physical and online, due to which transactions could not be carried out, and non-renewal of Know Your Customer (KYC) formalities. Obviously, FinTech has not helped much in this context.

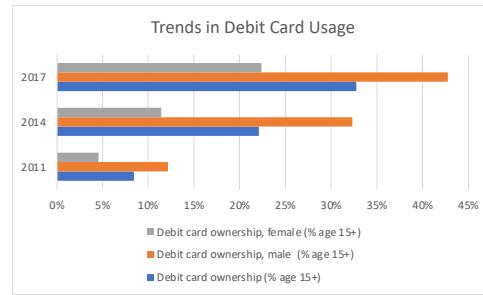
Other Direct Benefit Transfer (DBT) schemes, existing and intended, for Indian women have been conceived to provide them with a corpus of their own, thereby giving them an agency in household expenditures. For that to take effect, women need to be financially empowered through appropriate enablers for executing financial transactions.

Interestingly, inactivity in accounts is higher in the case of women, increasing the gender gap on this count. This confirms previous trends. Figure 7 shows that women have more inactive accounts than men in 2017. Figure 8 shows that though the female ownership of Debit Cards has increased, the skew favouring male ownership has been growing.



**Figure 7: Inactive Accounts. 2014-2017**

Source: *The Global Findex Database. 2017*



**Figure 8: Debit Card Usage. 2014-2017**

Source: *The Global Findex Database. 2017*

Third, the seniors who need to manage their own finances because of sociodemographic issues. Typically, their needs include managing household finances for payment of utilities, provisions, maintenance, and taxes; obtaining life certification for pensioners; and tax-related compliance. While FinTech support is not available for some of these, seniors are often unable to use existing solutions. The reason is not slow adaptation but various age-related physical challenges – the dexterity and visual acuity required for carrying out transactions on a smartphone decline with age. The Millennials and the generations thereafter will face the same problems when they become old unless technology and processes scale up to address these issues.

Not much attention has been paid to this segment in traditional literature dealing with financial inclusion, gender parity being more of a focus area – the welfare of seniors does not figure among the SDGs. The EY (2017, p. 16)

observation that adoption of FinTech is much lower in higher age groups of 55 does not enquire whether the ease of handling technology is a barrier. The special needs for technology-enabled financial inclusion for seniors merit closer attention.

The people at the base of the pyramid, women, seniors, and the rural population (particularly those who belong to the previous three categories) have special needs that should be addressed by technology. The technology currently available seems to be inadequate to meet these special needs and innovations are necessary if the objective of universal financial inclusion is to be achieved. Therefore, my third question is, what are the bottlenecks that are keeping them from inclusion?

### *Innovations for inclusive benefits*

The existing body of literature and research is more focused on aggregated volume-based dimensions of the developments in FinTech and does not look into any metadata that would provide greater insights into the above matters. Most of the information and analysis are more focused on the supply side.

Currently the National Payments Corporation of India (NPCI), a not-for-profit umbrella organisation, is the sole entity operating the retail payments and settlement systems in India and providing the infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems. The Reserve Bank of India (RBI) has invited applications for granting licenses to set up an alternate for-profit digital payment framework called National Umbrella Entities (NUE) to strengthen the retail payments and settlement systems. While the Reserve Bank of India (RBI, 2019, p. 3) envisages four goalposts of Competition, Cost, Convenience and Confidence, there is no specific goal for promoting inclusion. Further, the Reserve Bank of India (RBI, 2017, p. 7) has highlighted that innovations in the payments sector are targeted broadly at improving the speed and efficiency of payment systems.

### *The Bottlenecks*

From the supply side, FinTech's failure to reach out to the financially excluded has been affected by several factors. One critical success factor is a complete ecosystem of players from governments, technology firms, FinTech start-ups, and telecoms firms working together to make it happen (Skinner, 2018, Section 4+4 Success Factors, para. 3). In India, such an ecosystem is yet to reach a matured stage.

Vodafone's mobile wallet service, M-Pesa, was created in 2007 for Kenya and was extremely successful in providing millions with access to mobile-based financial services. However, M-Pesa could not replicate its success in India. Creating awareness and driving behaviour change amongst the rural segment of the population

requires tremendous resources in terms of time, money, and human capital that Vodafone would have to divert from its core business in India, i.e., cell phone service. (Lott & Sinha, 2019).

From the demand side, financial literacy, which allows people to make informed financial decisions, is the *sine qua non* for all users. Many studies have established the strong correlation between financial literacy and inclusion. A study in India, confirmed that financial counselling leads to improvements in the continued usage of a formal bank account. (Carpena et al., 2017). A 2019 survey conducted by the National Centre for Financial Education (NCFE) in India estimated the financial literacy level at 27.18%. Of this, the literacy level for the female population was 21% (16% in 2013) against 29% (23% in 2013) for the male population. (National Centre, pp 10-11).

The above bottlenecks are primarily responsible for the digital divide, which inhibits financial inclusion through FinTech.

### *Overcrowding in the FinTech space?*

The invitation for application by the RBI for granting licenses to set up an alternate digital payment framework called NUE can lead to many changes in the FinTech operating environment. Apart from the existing players operating in the market, there are several FinTech Accelerators and Incubators, and a proliferation of new entrants is likely. FinTech operations become profitable only in the long run, and many of the current players have deep pockets for sustaining initial losses. Strict compliance norms should be put in place to ensure that skewed competition does not lead to unfair business practices and loss to the consumer, further extending financial exclusion.

The RBI acknowledges that, “Regulators have a difficult role to play as their decisions have both a direct and indirect impact on competition between incumbent firms and newcomers. They have to provide a level playing field for all participants, but at the same time foster an innovative, secure and competitive financial market.” (RBI, 2017, p. 58).

### *Special concerns in post COVID era*

The post COVID era has seen a spurt in fraudulent transactions on online platforms. Regulatory and supervisory bodies must be extra vigilant to prevent such incidents by ensuring that all participants have necessary checks and balances in place. Simultaneously, a robust advocacy campaign must be carried out to sensitise all users.

Given the job losses, reducing income due to falling returns on investments in fixed return debt instruments, and other economic hardships such as the death of the sole earning member in a family, retail borrowers may try to

meet current expenditures through borrowing. According to various reports, digital lending is projected to increase exponentially in the coming days. It is important to ensure that FinTech organisations do not go overboard and engage in predatory lending practices that could lead to disastrous socioeconomic consequences in their eagerness to garner business.

### *Policy Implications*

Harnessing FinTech for financial inclusion requires ongoing collaborative effort by policymakers and implementation agencies. The Department of Economic Affairs, Ministry of Finance (2019, pp. 106-110) recommends adopting approaches such as Advisory Council for Regulators and Inter-ministerial Group for Monitoring Fintech Adoptions based on global practices.

#### 1. Demand Side

Financial services regulators should develop and strengthen the confidence in FinTech system by putting in place consumer protection measures. They should also ensure that financial service providers make available user-friendly technology enablers so that seniors need not carry out onerous activities for complying with regulatory requirements. Government departments responsible for the welfare of women and seniors should carry out advocacy and support programs with the help of Civil Society. The objectives would be to encourage the use of FinTech through handholding and mitigating risks associated with online transactions. Handholding would also include the involvement of trusted third-party intermediaries for facilitating transactions, analogous to the Citizen Service Centres.

#### 2. Supply Side

Financial service regulators and the government should ensure that Fintech is universally accessible and promote advocacy and the infrastructure to achieve this. Last-mile connectivity must be addressed on a war footing. The India Post Payments Bank network could play an influential role in achieving this.

Financial services regulators should also ensure that user-friendly and adequately secure processes are available to facilitate easy navigation, and consumers are adequately protected by providing measures mentioned for demand-side promotion. They should also mandate Service Level Agreements, monitor transactions failures and frauds, and prevent predatory lending practices and develop an ethos of responsible finance.

The government and institutions such as the Institute for Development and Research in Banking Technology should promote R&D for more inclusive FinTech platforms using AI with natural language support, voice and biometric-enabled transactions, and similar facilitators to help people with special needs navigate online transactions without difficulty. Current support from technology-enabled processes such as Chatbots are extremely straitjacketed.

### Concluding Remarks

This article can, at best, scratch the surface of a highly complex and challenging problem for which there is no silver bullet. Amid all the fervour and excitement about Fintech, the amount of investment it is bringing in, and predictions about the future, policymakers should not lose sight of the primary objective of any innovation in finance – that of financial inclusion.

Future research can attempt to identify the extent to which FinTech is used by the cohorts mentioned earlier and other financially excluded people; and the enablers and inhibitors impacting the usage. The next step would be to focus on enhancing the enablers and neutralising the inhibitors. Going forward, a key final output could be the design and development of prototypes/proofs of concept with more inclusive customer-centricity.

A mere increase in FinTech adoption does not achieve financial inclusion. Nor does a top-down commoditized approach using one size fits all technology. Globally, the recommended approach has been to build an ecosystem of stakeholders comprising the government, financial institutions, civil society, utility providers, regulators, telecom operators, FinTech, and consumers that can complement each other's efforts and create a synergy. It is a model worth exploring for India as well.

### References

Boston Consulting Group. (2021, March). *India FinTech: A USD 100 Billion Opportunity*.

Carpena, Fenella; Cole, Shawn; Shapiro, Jeremy; Zia, Bilal. 2017. *The ABCs of Financial Education : Experimental Evidence on Attitudes, Behavior, and Cognitive Biases*. Finance and PSD Impact; No. 40. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/26068> License: CC BY 3.0 IGO.

Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess. 2018. *The Global Findex Database 2017: Measuring Financial Inclusion and the Fin- tech Revolution*. Washington, DC: World Bank. doi:10.1596/978-1-4648-1259-0. License: Creative Commons Attribution CC BY 3.0 IGO

Department of Economic Affairs, Ministry of Finance. (2019). *The Report of the Steering Committee on Fintech Related Issues*.

EY. (2019 and 2017). *Global FinTech Adoption Index 2019 and 2017*.

KPMG. *Pulse of FinTech archive*. home.kpmg/fintechpulse

Lott, Jackson and Sinha, Mona (2019). *M-Pesa's Failure in India: Why Couldn't Vodafone Replicate its Kenyan Success? An International Marketing Case Study (Addendum by Former and Current Executives at the Vodafone Group)*. The Kennesaw Journal of Undergraduate Research: Vol. 6 : Iss. 2 , Article 2.

National Centre for Financial Education (n.d). *Strategy for Financial Education 2020-2025. A Multi-stakeholder led approach for creating a Financially Aware and Empowered India*.

- Reserve Bank of India. (2017, November). *Report of the Working Group on FinTech and Digital Banking*.
- Reserve Bank of India. (2019, May 15). *Payments and Settlement Systems in India: Vision – 2019-2021. Empowering Exceptional (E)payment Experience*.
- Skinner, C. (2018, September 25). Getting Infrastructure Right for Financial Inclusion. *The Center for Financial Inclusion at Accion (CFI)*.

<https://www.centerforfinancialinclusion.org/getting-infrastructure-right-for-financial-inclusion>

\*\*\*\*\*

# The Role of Bitcoin Newsfeed on the Cryptocurrency Stocks Prices: The Case of Marathon Digital Holdings, Inc.

**Issa Helmi**



*Helmi has a master's degree in Finance. He started his career as a banker and an analyst at multiple FinTech startups in the Middle East. In 2019, he obtained a Ph.D. diploma in Management (Digital Management) from Rennes School of Business, France. He worked at several business schools in France as a lecturer and researcher. He is currently an Assistant Professor in Digital Management at Burgundy School of Business, France.*

## Introduction

In the financial and business markets, fundamental and technical analyses are considered crucial for investments decisions. Fundamental analysis is often used for long-term investments, whereas technical analysis focuses more on short-term trades. Nevertheless, in today's high-speed digital age, both types may be insufficient for effective decision-making initiatives or achieving the desired outcomes. We are living in a data-driven world in which the speed, accuracy, and quality of the collected information/data are the most significant and prevailing. This article sheds light on the importance of news feeds in manipulating the prices of stocks and currencies. Specifically, this article centers on how the stock price of Marathon Digital Holdings, Inc. is largely dependent on the news feeds of Bitcoin rather than on fundamental or technical approaches.

Technology is a powerful disruptive tool that has transformed numerous industries from manual processing to digitalization to achieve organizational objectives and goals. Technology is changing the financial world and has resulted in the emergence of the FinTech industry. This industry has achieved high visibility and significance during the Covid-19 virus outbreak. It is not surprising that multiple other sectors, such as transportation, healthcare, banking, retail, and education, have grown dependent on FinTech services (Kaur and Lashkari, 2021).

FinTech firms offer a wide range of innovative and novel strategies to improve financial transactions, processes, products, and services. They provide technological solutions to finance-related problems, concerns, and issues (Kaur and Lashkari, 2021). Furthermore, they are gradually replacing the traditional financial and banking services by creating, for instance, e-wallets/digital wallets.

Nevertheless, there are several complications! First, on the one hand, the FinTech industry is rapidly developing and reaching higher levels of sophistication. On the other hand, it has become the most vulnerable domain in

terms of digital security. The rise of FinTech has been followed by a surge in cyber-attacks, frauds, and other security concerns. Such attacks may lead to the depletion of financial inputs and resources. Second, the concept of FinTech is somehow threatening the sustainability of traditional banks and financial services through the adoption of blockchain technology. Why? Because using blockchain technology, traditional monetary means/systems (cash, credit cards, checks) are being replaced and substituted by digital currencies (cryptocurrencies) (e.g., Bitcoin, Ethereum, etc.). Such a change is drastically reshaping the markets and businesses and thereby making money obsolete. However, like traditional investments and currencies trading, digital currencies have been witnessing extreme fluctuations and volatility in the trading markets, leading to inconsistencies and anomalies in pricing patterns.

To briefly elaborate on the above concept, Figure 1 shows the drastic shift in the trading price of Bitcoin across a 1-year interval. In terms of technical analysis, trading and investing in cryptocurrencies are very much like other currencies or commodities, in which supply and demand determine price. Investors or traders may perceive their trading transactions either for the long-term or for the short-term (speculative trading).

Figure 1. Bitcoin Price Volatility



Source: <https://coinmarketcap.com/currencies/bitcoin/>

### **The case study: Marathon Digital Holdings, Inc.**

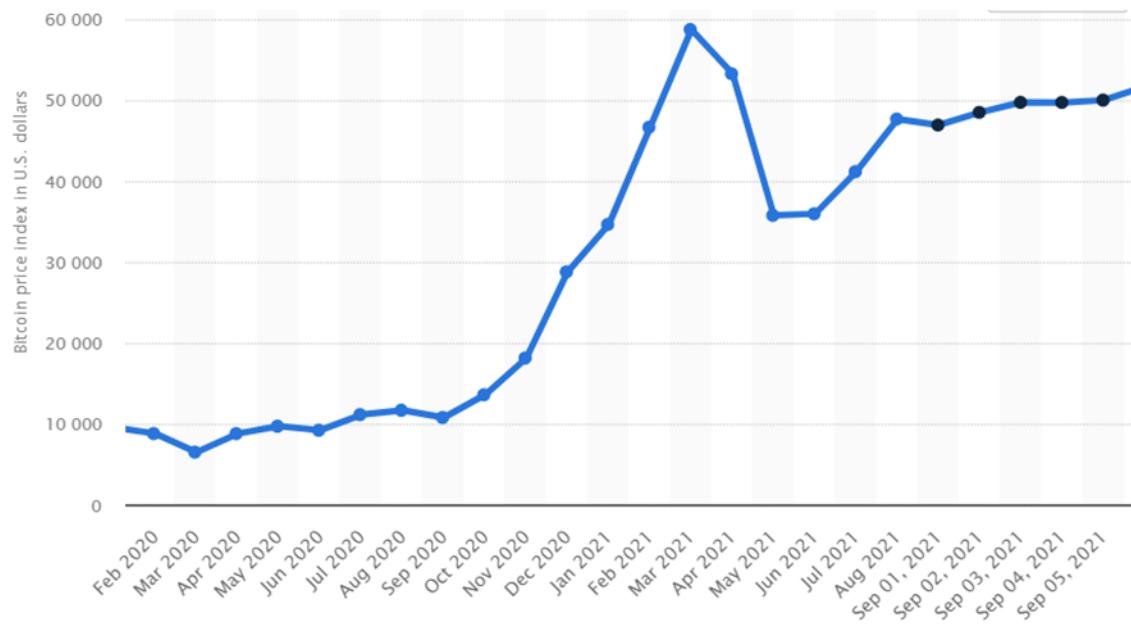
The price of Bitcoin has risen to exceed the \$50,000 mark for the first time, and the crypto-currency markets continue to recover after their recent decline. Despite being still \$14,000 lower than its highest mark ever, bitcoin recently witnessed a surge in the price (see Figure 2). This surge has been due to multiple fundamental and recent breakthroughs (Crypto AM, 2021), such as Elon Musk's wave of institutional investments in cryptocurrencies

and JP Morgan and Wells Fargo expanding their offerings. The Securities & Exchange Commission allowing investments in Bitcoin futures has also contributed to the price surge.

Nevertheless, such news criteria are not more significant than the earlier news of the previous years. Therefore, the fundamentals may only explain slight price changes rather than drastic shifts in the prices.

Similarly, from a technical analysis perspective, Figure 2 shows a descending price line for bitcoin from mid March 2021 until mid May 2021. However, in the mid June 2021, it started to increase. There was certainly no reason for such a sudden rise, especially since technical analysis may not effectively explain the motives behind it.

Figure 2: Market Trend of Bitcoin Prices



Source: <https://www.statista.com/statistics/326707/bitcoin-price-index/>

Now, shifting to the Marathon Digital Holdings company, which is a digital asset technology company that mines cryptocurrencies with a focus on the blockchain ecosystem and the generation of digital assets. It is one of the largest Bitcoin mining companies in North America. Marathon helps gain exposure to Bitcoin in the portfolio without dealing with the complications of holding the asset directly. From a technical perspective, it is evident (see Figure 3) that the company's prices followed a descending (or at least a steady) pattern or approach during the last two months of 2020. However, the prices witnessed an extreme volatility, and the prices increased in 2021 from almost \$2 in Nov 2020 to \$44 in September 2021.

Figure 3: Marathon Digital Holdings' Price Chart



(Source: Yahoo! Finance; <https://finance.yahoo.com/quote/MARA/>)

What drove such a boost and optimism in the market? Multiple reasons may have led to this outcome: low-interest rates, zero charges/commissions, anticipated rise in cashflows, availability of money, expected introduction of innovation, increase of active users, and introducing new perspectives within cryptocurrencies (Castillo, 2021). Figure 4 shows the income statement of Marathon Digital Holdings company. We can clearly see that Marathon Digital Holdings' gross profit, operating income, and net income were negative in all four years. So, how did the share price increase when fundamental analysis showed otherwise?

Figure 4. Marathon Digital Holdings Income Statement

Income Statement					
	All numbers in thousands				
Breakdown	TTM	12/30/2020	12/30/2019	12/30/2018	12/30/2017
> Total Revenue	41,953	4,357	1,185	1,562	519,622
Cost of Revenue	74,432	11,731	3,958	5,336	3,471
Gross Profit	-32,479	-7,374	-2,772	-3,774	-2,951
> Operating Expense	4,293	1,588	1,019	6,080	8,529
Operating Income	-36,772	-8,962	-3,791	-9,854	-11,480
> Net Non Operating Interest Inc...	338,765	-2,641	-18,264	-2,357	-4,868
> Other Income Expense	3,676	-1,483	292,534	-534,262	-15,089
Pretax Income	-32,757	-10,448	-3,517	-12,745	-31,438
Tax Provision	0	0	0	69,134	-103,952
> Net Income Common Stockholder...	-32,757	-10,448	-3,517	-12,814	-31,334

(Source: <https://finance.yahoo.com/quote/MARA/financials/>)

Therefore, should the price further increase? To fully comprehend the analysis, Figure 5 presents the stock price data based on a monthly frequency. From the beginning of October 2020 till December 2020, there was almost no change, and the price was close to \$5. Then the price goes up unreasonably fast and by January 2021, you can see that it increased to \$13. This is a huge increase. As such, from a technical perspective, selling of the shares should take place; thus, expecting the price to decrease after such a surge for no specific reason.

Figure 5. Marathon Digital Holdings' Historical Prices

Time Period: Sep 06, 2020 - Sep 06, 2021		Show: Historical Prices		Frequency: Monthly		Apply
Currency in USD						
Date	Open	High	Low	Close*	Adj Close**	Volume
Sep 03, 2021	43.71	44.97	43.22	43.41	43.41	12,728,286
Sep 01, 2021	41.05	44.97	40.48	43.41	43.41	33,194,900
Aug 01, 2021	27.63	41.58	26.20	40.59	40.59	230,001,300
Jul 01, 2021	31.37	31.55	20.61	27.63	27.63	134,562,700
Jun 01, 2021	24.54	33.72	21.54	31.37	31.37	273,395,600
May 01, 2021	38.20	39.68	18.32	24.77	24.77	396,048,000
Apr 01, 2021	48.88	57.75	28.36	36.78	36.78	512,717,900
Mar 01, 2021	34.22	50.21	24.11	48.02	48.02	449,074,400
Feb 01, 2021	20.58	49.41	19.35	30.15	30.15	573,219,200
Jan 01, 2021	12.48	28.37	10.53	20.74	20.74	1,028,680,200
Dec 01, 2020	5.86	14.66	4.50	10.44	10.44	802,228,500
Nov 01, 2020	2.12	6.28	2.06	6.28	6.28	488,601,500
Oct 01, 2020	2.01	3.11	1.82	2.16	2.16	243,701,600

(Source: <https://finance.yahoo.com/quote/MARA/history?p=MARA>)

Nevertheless, on the contrary, the price witnessed within one month an increase to \$20.74 in end January and further doubling of its value to \$48.02 in end March, before settling on \$43.41 on September 3, 2021. Thus, an increase of 800% of shares of Marathon Digital Holdings took place in the first quarter of 2021 (Quast, 2021; Globe Newswire, 2021). In other words, the price kept on charging upwards, knowingly that Marathon has a negative profitability for four consecutive years.

Therefore, several questions start to arise concerning the reasons behind such a drastic shift (increase) in the price, for instance: Is the share price of Marathon affected by the price of bitcoin? Are prices unrelated to the company's efficiency and effectiveness? Is it ethical or simply unregulated? How are bitcoin prices manipulated to start with?

In a study conducted by Nitayaprapha (2021), the price of bitcoin (thus the price share of a company dealing/managing/mining bitcoins) is very much dependent on social media. Bullish posts (tweets) are linked with higher values of bitcoin currency, whereas bearish posts are associated with lower values. Interestingly, social media's effects on bitcoin are stimulated by the 95% silent majority rather than the vocal ones.

Furthermore, there are additional actions that may lead to such sharp deviations. First, there have been reports that traders can also be dealing in options and futures related to cryptocurrency mining company stocks, and the mining company's stock mirror daily bitcoin action and witness a 10% daily swing in the prices (Pechman, 2021). Second, fresh investments in a mining company's stocks also produce an increase in the price. For example, *Emerald Mutual Fund Advisers Trust* made an investment of \$5.27 Million in Marathon Digital Holdings, Inc (American Banking News, 2021).

## **Projected concerns**

In Marathon's case, neither the technical nor the fundamental analysis seems to have played a decisive role in the price swings. The news feeds, of all types and sources, play a large role in the crypto prices, which shed light on other projected concerns. Such concerns are not yet effectively addressed in the markets but when mentioned in the news feeds, they may positively or negatively influence the prices regardless of a company's portfolio, investments, or innovation. By the looks of it, newsfeeds largely determine bitcoin and Marathon stock prices. As a result, there are several concerns regarding crypto prices: ethical (pumping and dumping), environmental (green sustainability in terms of mining bitcoins), regulatory (rapid fluctuations), and security (hacking).

In terms of ethical concerns, since almost one year ago, there have been calls that pump-and-dump trading (whether for stocks, forex, or cryptos) needs new rules for the digital age (Cohodes, 2020). Till today, no serious steps have been undertaken. Bitcoin's (or similar cryptos) price is highly volatile, and claims of misbehavior, including pump and dump, spoofing, wash trading, and front-running by exchanges, are widespread (Roubini, 2021).

In addition, the fundamental value of bitcoin is zero and would be negative if a proper carbon tax was applied to its massive polluting energy-consuming production (Roubini, 2021). This leads us to our second concern.

For the environmental concerns, for instance, Elon Musk tweeted that Tesla would resume using digital currencies for its transactions once crypto mining becomes greener (Partridge, 2021). Since Marathon Digital Holdings company is specialized in mining bitcoins, a huge amount of energy is consumed to conduct its activities effectively, but not efficiently. It has been reported by the Cambridge Bitcoin Electricity Consumption Index that the energy used to produce bitcoin alone is equivalent to the annual carbon footprint of Argentina.

Similarly, cryptocurrencies have split opinions among investors and financial regulators including the rollercoaster ride sparked by their frequent swings in price (Partridge, 2021).

Furthermore, apart from the regulatory concerns, there is also skepticism among regulators concerning the vulnerability of cryptocurrencies to theft or hacking (Partridge, 2021). For instance, The Bank of England warned

of such risks to all investors trading with cryptocurrencies, in which economic and financial instabilities may arise in the future.

## Concluding Remarks

According to Hyder (2020), social media has been assisting in the flourishing and growth of cryptocurrencies (through word of mouth). But, on the other hand, the mainstream media (which most of them are affiliated with, managed, and funded by big banks, investors, and politicians) is going against the flow. The extreme volatility of the prices of cryptocurrencies (bitcoin or others) and hence the FinTech companies dealing with bitcoins are hugely being affected within two different and opposing streams of media.

It is evident that FinTechs dealing with cryptocurrencies still have a long way to penetrate the financial markets despite the high level of innovation involved (blockchain technology). Regardless of the chosen strategy, due to the rapid evolution of technology, other disciplines or domains are lagging because of improper (or lack of) adequate processes (regulatory, security, ethical, etc.). From the looks of it, the financial sector, despite its significance, still needs time to fully embrace this technology.

## References

- American Banking News (2021, August 17). Emerald Mutual Fund Advisers Trust makes new \$5.27 million investment in Marathon Digital Holdings, Inc. *Social media Referenced blogs (Europresse)*
- Castillo J. (2021). Cryptocurrency wallet MetaMask hits 10 million global monthly active users, with Filipino users leading the way. Manila Bulletin. September 1, 2021. <https://mb.com.ph/2021/09/01/cryptocurrency-wallet-metamask-hits-10-million-global-monthly-active-users-with-filipino-users-leading-the-way/>
- City A.M. (2021). Bitcoin smashes through \$50k, but Cardano steals limelight as it looks to break \$3. August 23, 2021. <https://www.cityam.com/bitcoin-smashes-through-50k-but-cardano-steals-limelight-as-it-looks-to-break-3/>
- Cohodes, M. (2020, April 26). Pump-and-dump stock trading needs new rules for the digital age. *Financial Times*.
- Globe Newswire (2021, August 13). Marathon Digital Holdings reports second quarter 2021 results. (*Benzinga – Europresse*).
- Hyder, S. (2020, November 23). How social media is helping cryptocurrency flourish: A case study with Jonathan Jadali. *Forbes*.
- Kaur, G., & Lashkari, A. H. (2021, September 2). Understanding cybersecurity management for FinTech: introduction to FinTech and the importance of security objects. *IT World Canada (Hurry web press – Europresse)*, Article 1
- Nitayaphrapha, S. (2021, June). How does social media affect cryptocurrency value? A case study of bitcoin in Thailand. *International Journal of Scientific and Research Publications*, 11(6), 189 ISSN 2250-3153.

a₹tha (September 2021)

Partridge, J. (2021, June 14). Bitcoin price back above \$40,000 after Elon Musk comments. *The Guardian, Yahoo Finance*.

Pechman, M. (2021, September 1). Bitcoin bulls target \$50K as Friday's \$655M BTC options expiry approaches. *CoinTelegraph*

Quast, J. (2021, July 14). Here's why Marathon Digital Holdings stock tripled in the first half of 2021. *The Motley Fool*.

Roubini, N. (2021, February 10). Bitcoin is not a hedge against tail risk. *Financial Times*.

\*\*\*\*\*

# Factoring and the New Factoring Act

**Arvind Rangarajan**



*T.C.A. Arvind Rangarajan is an IIMC Alumnus (1989-91) and a retired banker. Roles include Head of Trade for Standard Chartered, India, and Head of Structuring for Deutsche Bank India and short-term consultant for World Bank. Other interests are distance running and translating old Tamil poetry.*

Financial Ratios form the core of the commandments guiding the Loans and Bond markets of our day. Companies have to tread the balance between Debt and equity carefully. Borrow too much and the risk to the lenders forces up interest rates. Borrow too little and equity holders would punish the stock for poor yields. It is no secret then that financial controllers are always seeking the holy grail – money that is neither equity nor debt. Is this real? Welcome to the world of Factoring.

## What is Factoring?

In the ancient world, Jesus had decreed Usury or the charging of interest as one of the seven deadly sins. In his divine comedy, Dante placed Scroveni, the Paduan Money Lender, in the seventh hell. As the Catholic church searched for avenues to deploy the vast sums gained from the sale of indulgences, a new financial instrument evolved. Factoring or the purchase of Bills at a discount. Since no interest was paid, and the compensation could be attributed to exchange rate, the question of usury was side stepped. So, there is a hoary tradition in the west that facilitating the purchase of goods by buying bills or invoices (and charging costs) is a Trade Credit and not a loan. While accounting standards have been upgraded, there has been a tradition of not counting Trade credits as debt for purposes of the financial ratios. The ratio of Net Working Capital (or the sum of current assets less trade credits) to Sales has become a norm in evaluating a firms leverage and sales efficiency.

## Factoring and the test of “True Sale”

When a company sells goods, it is usual to offer the buyer a few days to pay. In accounting terms, the sale has happened, and in place of the finished goods on the balance sheet, cash should appear. Instead, until the buyer pays, we have his “obligation to pay” or “receivable”. It is this right to receive cash from the buyer that financiers would purchase.

Consider the following income statement and balance sheet extracts of a company in Figure 1:

Figure 1 (Amount in Rs. Crore)

Fiscal Year	2015	2016	2017
Sales	8,467	8,517	8,584
Receivables	3,852	4,657	4,433
Cash	127	99	390
Debt	2,214	3,022	3022
Net Debt (Debt – Cash)	2,087	2,923	2632
EBITDA	511	699	841
Net Debt ÷ EBITDA	4.08	4.18	3.11
Rating	A+	A+	AA-

The table shows financial data for three fiscal years: 2015, 2016, and 2017. Key observations include:

- Sales:** Increased from 8,467 to 8,584.
- Receivables:** Decreased from 3,852 to 4,433.
- Cash:** Increased from 127 to 390.
- Debt:** Increased from 2,214 to 3,022.
- Net Debt:** Decreased from 2,087 to 2,632.
- EBITDA:** Increased from 511 to 841.
- Net Debt ÷ EBITDA:** Improved from 4.08 to 3.11.
- Rating:** Improved from A+ to AA-.

Annotations explain specific changes:

- Sales have increased. Receivables have decreased due to factoring.** (points to the Sales and Receivables rows)
- The converted Receivables (Rs. 224 crore) and higher sales (Rs. 67 crore) show up as Cash, thus reducing Net** (points to the Cash row)
- EBITDA was higher due to operational efficiencies. But in combination with the improved cash position, the Net Debt to EBITDA ratio makes for a higher rating and hence a reduction in interest expense across the entire Debt of Rs. 3,022 crore.** (points to the Rating row)

The best way to reduce the receivables is, of course, to collect them from the obligors and convert them to cash. But what if that is not feasible? This is where companies look to “sell” their receivables. The buyer of the receivables or “factor” is usually a bank or a financial institution. Modern accounting standards hold that where such receivable purchase is done on a “with recourse” basis, it is no different from a loan or other debt. If the purchase is “without recourse” and the seller of the receivable is not obliged to make good even if the obligor (Buyer of goods) defaults, it is not a debt on the book of the seller.

For the amount raised to be classified as not debt, the factor should have no right to return the receivable and seek repayment if the obligor does not pay. Additional signs of a true sale would be that the factor does not claim any overdue interest if the payment is delayed. IFRS 9 provides the accounting standards for asset derecognition from the balance sheet. It also provides small practical flexibilities. For instance, if the factor pays only 98 on a bill of 100 and charges a penalty for poor quality or late delivery, such setoffs are allowed to be made good by the seller to the factor without affecting the true sale test.

### TReDS and the new era of Factoring in India

India too has had its waxing and waning enthusiasm for factoring. Indians invented Hundi, which could allow pilgrims to travel safely without carrying hard currencies. In India, the discounting of notes of hand was common practice over the last several centuries. The modern era has however seen Hundis fall into strong disfavor. Regulators view the flexible and fungible end-use as anathema and licensed institutions – banks and non-bank financial institutions are expressly forbidden from financing such instruments.

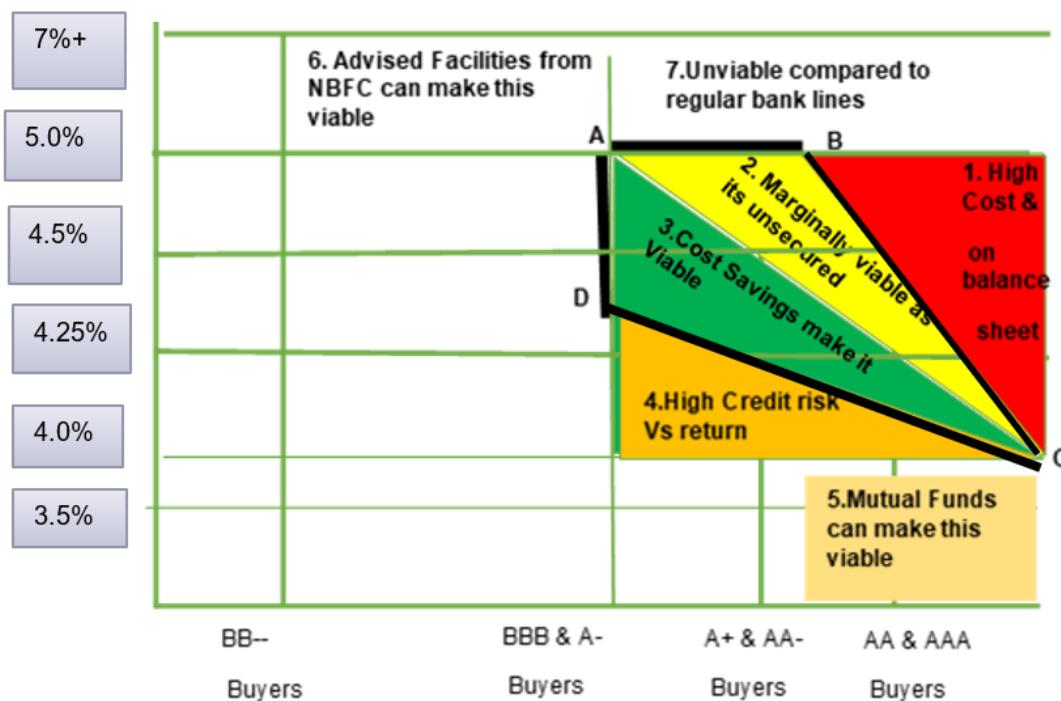
Evolving technology adoption has now allowed the GST network in India to track sales and verify invoices. A monthly GST collection of 1 lakh crores would imply a gross sales of about INR 10 lakh crores per month assuming a GST rate of 10% on average. This implies a need to fund receivables of between INR 30 and 40 lakh crores assuming a 90 to 120 day credit cycle on average for the organized sector. Current exposure to bills in the

Banking sector is around INR 2 lakh crores (RBI 2021). Most of the gap in financing would fall on micro, small, and medium enterprises (MSME).

As a way to help MSME, the Reserve Bank of India (RBI) created Trade Receivables Discounting System (TReDS), an electronic platform to buy the receivables on a “without recourse” basis. Using TReDS, banks can buy receivables from MSME sellers after their buyers (obligors) have accepted the obligation to pay. This has the advantage of predicated the credit risk on buyers and helping MSME with liquidity without increasing their borrowings. To help lower costs, RBI mandated that all transactions on TReDS would qualify towards a bank’s priority sector obligations. This has effectively brought financing rates down to around 4%, even below the prime rate of the State Bank of India. TReDS hit a milestone of INR 2,000 crores a month of bills discounting in March 2021. This is minuscule when we compare it with INR 1,112 lakh crores of total bank financing in India (RBI 2021).

With defaults at historic highs, banks have had to become cautious when they assume the risk of obligors paying their dues on time. In Figure 2, the Viability Kite ABCD shows the limited market to which TReDS appeals. Area 1 (in red) has the receivables due from the best obligors. But the obligors find that they can usually raise money cheaper from capital markets and so there are usually only a few of these obligors although Banks would like to take this risk. Areas 2 and 3 represent a higher return for banks with an acceptable level of risk, and this is the area that contributes the bulk of the volumes currently seen in TReDS. The BBB and lower-rated obligors and their vendors are thus largely left out of factoring on TReDS. The low-risk appetite of the banks has left out the vast majority of BB- and BBB-rated obligors from the market.

Figure 2: Viability Kite: Bank’s Risk Appetite vs Return



It is with a view to changing this demand for higher risk obligors that the Indian Parliament passed the Factoring Act 2021, in August. It has since been notified in the official gazette.

## Why pass a new Factoring Act?

There are today, only seven factoring companies in India. Unlike in other countries, India's poor experience with verifying the genuineness of receivables and endemic problems around double financing of the same invoice has pushed RBI to have a separate category of Non-Bank Finance Company (NBFC) Factoring. These companies were hitherto required to focus on Factoring and ensure that at least 50% of their turnover and assets came from the purchase of Receivables (RBI 2016). Further, all trades had to be registered with the Central Registry of Securitisation Asset Reconstruction and Security Interest of India (CERSAI, central registry) within 30 days (Standing Committee on Finance 2021). Thus, an institution that first registered the receivable in CERSAI is entitled to the cash flows when the obligor pays. The registration addresses the risk of who gets paid in the event of a double financing.

Still, NBFC sponsors found lending easier to manage than factoring. The requirement to focus on factoring to the exclusion of other lending opportunities led to the neglect of the sector. The new act seeks to amend this stipulation that factoring should constitute 50% of the business. If the threshold of 50% were lowered, a large number of the estimated 9,500 NBFC may register on TReDS and discount the receivables of higher risk obligors familiar to the NBFC. After all, NBFC and microfinance institutions have successfully evolved a model to lend to small borrowers in villages and towns who are usually not bankable.

## Insurance

A further feature of the new Act is that it takes a policy decision allowing banks and financial institution to mitigate risk through credit insurance (Standing Committee on Finance 2021). Until 2010, banks and NBFC could take an insurance policy under which up to 85% of their exposure to the risk of default by obligors was insured. Like any insurance policy, there are complex terms and conditions, with the mandatory requirements of doing a basic due diligence and adhering to internal credit guidelines. A series of defaults in 2010 and resultant large claims convinced the Insurance Regulator that insurers themselves poorly understood what they were insuring. Some insurers issued policies that were effectively a guarantee, with no strings attached. A ban on the use of credit insurance by banks and financial institutions followed in situations where they had no recourse to the Sellers (i.e., where True Sale applied).

The new Act seeks to now revisit this decision. The IRDAI has now issued final guidelines (IRDAI 2021). Banks and Factoring companies may now directly take trade credit insurance on their factored receivables. However,

there are restrictions on insuring a single obligor except if the sellers are MSME. This will allow the insurance to be applied to TReDS and relatively poorly rated companies, with a good track record of payments, will now find their payables easily funded. (Many small companies with good financials can never get rated better than BBB simply because of size).

IRDAI had earlier permitted a trial transaction with insurance protection on TReDS. The idea once again is to enlarge the universe of viable obligors and pass on more credit into the hands of the MSME sector.

Figure 3

Key Features	New Features for Indian insurance
Banks and factoring companies can directly buy insurance or be assigned it.	Performance risk and project completion risk can now be covered
MSME can avail insurance on single buyers : essential for TReDS based factoring	No maximum limit on the indemnity in the policy – earlier it was 85%
TReDS can channel insurance on single invoices	Loans against receivables not covered : ie Banks & NBFC can only insure purchased receivables, not loans.

Source: IRDAI (2021)

### What the future holds

The Act mandates the linkage of the GST network to the TReDS so that invoices may be verified and any financing registered with a central registry. This would help cut down the risk of fake invoices and dual financing. But the way to make this happen is as yet unspecified. A Central registry that did not identify each transaction and each obligor and seller with a unique reference and thus track deals would be valueless. It seems difficult to enforce a national mandate of identifying and marking each and every invoice financed. Blockchain technology has a feature of being immutable – (cant be changed) and this has prompted the TReDS platforms to adopt a blockchain based solution where an invoice presented in one exchange is notified to the others. The technology helps mask client details but the unique identification system helps ensure that the same invoice is not discounted on other exchanges. A similar approach may come into play with lenders and the central registry. A government sponsored blockchain protocol may however be necessary to convince people of the authenticity and reliability of the technology.

The financial treatment of a discounted receivable (on the books of the obligor) is also likely to remain confusing. If a bank has purchased a receivable, it is not seen as a debt of the obligor. By contrast, if a bank provides a loan to fund the obligor's payables, it is a debt of the obligor. The effect on the cash position of the obligor is identical, but in the former situation, the obligor is held to a lower standard on debt-equity and other leverage ratios. Where auditors have insisted on treating the receivables confirmed on TReDS as "Acceptances" and included them under debt, some obligors stopped participating on TReDS even at the risk of paying a higher price to discount the payables in other, non-government-mandated platforms or using bilateral arrangements.

### **Bank refinance**

Typically, true sale considerations prevent the factor from having any security. There is only a title to the receivables. The current RBI master circulars prescribe that banks may not refinance invoices discounted (which are unsecured) to NBFC except if the invoices are for the automobile sector (RBI 2013). This meant that any NBFC undertaking factoring would have to fund it through equity or capital markets and not rely on bank borrowings. Such restrictions are a major disincentive to factoring. The new Act recommends that factors should be granted a "specialized MSME funding entity" status (Standing Committee on Finance 2021).

### **Credit enhancement agreements**

Today TReDS provides a highly subsidized source of funds because the receivables qualify as a priority sector lending for the bank participants. But an NBFC has no such requirement. The expected influx of NBFCs on TReDS would work best if there were a method for institutions to "accept" or underwrite the risk of buyer default without necessarily having to provide funding as well. Funding would come from people who need the priority sector benefit and pay a suitable price for it. Like in the stock exchanges, a system of margins and guarantees from Banks can help mitigate the risk of NBFC who "accept" and find they cannot honor their commitment in case of default.

### **Conclusion**

The new Factoring Act once again brings an ancient and oft-forgotten financing tool into the spotlight. This time around, the developments in data science, payment systems, and online KYC make for a much better prospect of expanding the product into the unbanked and under-banked segments of the Indian economy. In the nineties, commercial vehicles and their securitization were the hot favorite areas of growth. In the noughties, microfinance flowered. Will the twenties belong to factoring? Time will tell.

## References

IRDAI. 2021. IRDAI (Trade Credit Insurance) Guidelines Sep 2021. Available at [https://www.irdai.gov.in/ADMINCMS/cms/whatsNew\\_Layout.aspx?page=PageNo4561&flag=1](https://www.irdai.gov.in/ADMINCMS/cms/whatsNew_Layout.aspx?page=PageNo4561&flag=1)

RBI 2013. Master Circular – Bank Finance to Non-Banking Financial Companies (NBFCs). RBI/2013-14/57 DBOD.BP.BC.No.6/21.04.172/2013-14 dated July 1, 2013. Available at [https://www.rbi.org.in/scripts/BS\\_ViewMasCirculardetails.aspx?id=8115#5](https://www.rbi.org.in/scripts/BS_ViewMasCirculardetails.aspx?id=8115#5)

RBI 2016. Master Circular – The Non-Banking Financial Company - Factors (Reserve Bank) Directions, 2012. RBI/2015-16/27 DNBR (PD) CC. No. 049/03.10.119 / 2015-16 July 01, 2015 (Updated as on April 11, 2016). Available at <https://rbidocs.rbi.org.in/rdocs/notification/PDFs/27MS4BD1673FA1DF4E7B93FEBBD02DFD5C92.PDF>

RBI. 2021. **Scheduled Banks' Statement of Position in India as on Friday, August 13, 2021. Report dated August 27, 2021.** Available at [https://rbi.org.in/Scripts/BS\\_StatisticsDisplay.aspx?Id=427](https://rbi.org.in/Scripts/BS_StatisticsDisplay.aspx?Id=427)

Standing Committee on Finance. 2021. Twenty-Fourth Report of the Standing Committee on Finance on The Factoring Regulation (Amendment) Bill, 2020, Ministry of Finance (Department of Financial Services). Available at [http://164.100.47.193/lsscommittee/Finance/17\\_Finance\\_24.pdf](http://164.100.47.193/lsscommittee/Finance/17_Finance_24.pdf)

\*\*\*\*\*

# Evolution of Financial Services in the Last Decade

## Mayank Agrawal



*Mayank Agrawal, an MBAEx candidate at IIM Calcutta (class of 2022), has over 11 years of work experience in Financial Services and IT Services. Before joining the MBAEx program at IIM Calcutta, he was an AVP at Citi. As a Senior Business Analyst, he was responsible for integrating global business and technology teams and driving the projects from end to end. Before Citi, he was a Business Analysis Consultant at BNY Mellon, working on Global Asset Servicing solutions. He has also worked for retail banking client in Glasgow, UK for Cognizant Technologies. He loves playing Tennis and is a huge admirer of Federer.*

Change is inevitable, but how frequently? Due to various organizational environments and technological advancements, Banking & Financial Services (BFS) has seen more changes than predicted in the last decade. Given the high amount of investment in conceptualizing and implementing new initiatives and unavoidable short-term instability that follows, what led to these recurrent changes in the BFS industry? In this article, we examine the current state of the banking and financial sector, their transformation initiatives, and the challenges they face in evolving to a modern, agile and customer-focused organizations.

Before analyzing changes in the industry, it's imperative to know, in a nutshell, what constitutes a Banking and Financial Services Industry, what services are offered, and who are the market leaders, both globally and in India. Specifically, let us discuss commercial banks, neobanks, investment banks, digital payment platforms & gateways, asset management companies, private equity firms, exchanges & broker platforms, and regulatory bodies.

### Commercial banks

We interact almost daily with Commercial banks (commonly called Banks). From salary credit to electronic fund transfers, from taking loans (home, car, mortgage, etc.) to opening term deposits, from paying college fees via bank cheque to issuing credit and debit cards, banks provide services that we need for our financial existence. With total assets of USD 5.11 trillion, ICBC (Industrial & Commercial Bank of China) is the largest bank in the world (in terms of assets). Exhibit 1a provides the list of the top 10 banks globally in terms of assets as of December 2020. In India, as of March 2021, the State Bank of India tops the chart with approx. USD 621 billion by assets, followed by HDFC Bank with USD 239 billion. Exhibit 1b provides the list of the top 10 Indian banks in terms of assets as of March 2021.

Exhibit 1a: Top 10 banks globally in terms of assets as of December 2020 in USD trillion.

Industrial & Commercial Bank of China Limited (China) \$5.110	Bank of China Limited (China) \$3.740	BNP Paribas SA (France) \$3.060	HSBC Holdings plc (U.K.) \$2.980
China Construction Bank Corporation (China) \$4.310	MUFG Bank (Japan) \$3.400	Bank of America National Association (U.S.) \$2.820	
Agricultural Bank of China Limited (China) \$4.170	JPMorgan Chase Bank National Association (U.S.) \$3.390	China Development Bank (China) \$2.530	

Data Source: Accuity. (2021). *Largest banks globally as of December 2020, by assets (in trillion U.S. dollars)*. Statista. Statista Inc. "<https://www.statista.com/statistics/269845/largest-banks-in-the-world-by-total-assets>"

Exhibit 1b: Top 10 Indian banks in terms of assets as of March 2021 in USD billion.

SBI \$621.2	PNB \$172.7	ICICI \$168.6	Bank of Baroda \$158.3
HDFC Bank \$239.3	Canara Bank \$158.0	Axis Bank \$136.5	Bank of India \$99.4
	Union Bank \$146.8		Indian Bank \$85.8

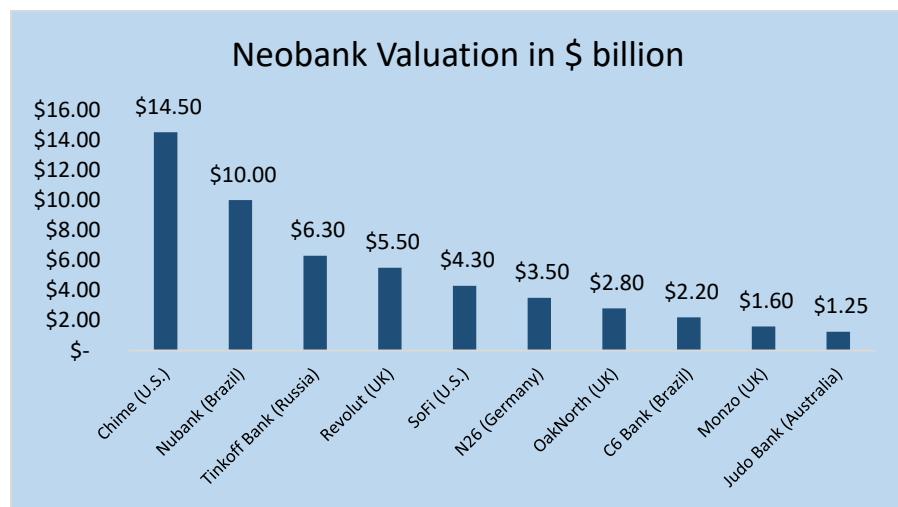
Data Source: Balance sheet data from MoneyControl.com  
<https://www.moneycontrol.com/stocks/marketinfo/totassets/bse/>

## Neobanks (Challenger banks)

These are digital banks that operate 100% online. Without a traditional brick-and-mortar model, neobanks have disrupted the retail banking. Though the services offered (opening account, investments, payments, etc.) by these banks are limited and very specific, it is enough to attract users who don't want to walk into a branch or ATM anymore. Exhibit 2a shows the valuation of the top 10 Neobanks in the world. Exhibit 2b shows cumulative funding in Indian Neobanks. With a market value of around USD 14.5 billion as of 2020, Chime (U.S) is the most valued Neobank. Pacing up with the global counterparts, the Indian banking ecosystem has also embraced

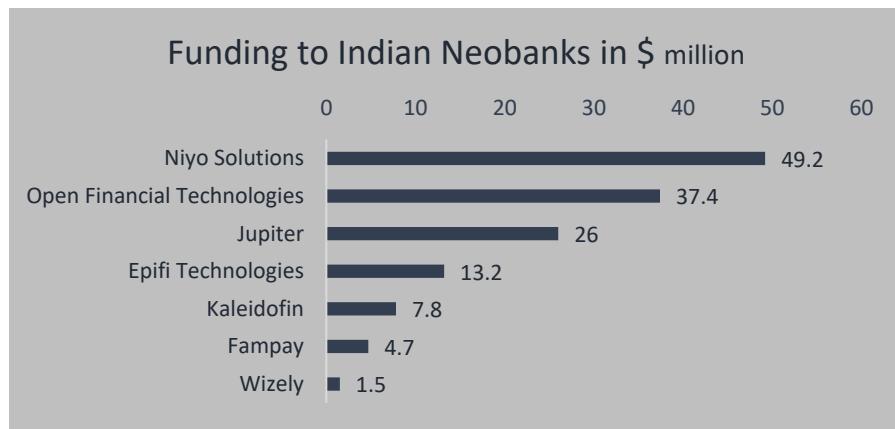
challenger banks in the last 5 years. India-based neobanks, such as Niyo Solutions and Open Financial Technologies have received substantial funding to make a strong footing in the Indian market.

*Exhibit 2a: Valuation of the Top 10 Neobanks in the world.*



Data Source: WhiteSight. (February 8, 2021). Most valued independent neobanks worldwide 2020 (in billion U.S. dollars) [Graph]. In Statista. <https://www.statista.com/statistics/1239713/most-valued-independent-neobanks-worldwide/>

*Exhibit 2b: Funding in Neobanks in India as of July 2020*



Data Source: MEDICI. (July 23, 2020). Startup funding in neo-banking across India as of 2020, by company (in million U.S. dollars) [Graph]. In Statista. <https://www.statista.com/statistics/1180393/india-neobanking-funding-startups/>

## Investment Banks (IB)

Probably the most glamorous and sought-out in the BFS industry. From merger & acquisition advisory to underwriting securities, from broker-dealer activities to asset management, investment banks perform various market activities that generate fee- and margin-based revenues. As of April 2021 , Goldman Sachs has approx. 9.3% of the revenue pie, thus leading the market globally, and with just marginally lesser market share, JP Morgan

Chase is the second in the list (Norrestad, 2021). SBI Capital and Kotak Mahindra Capital are among a few of the biggest Investment banks in India.

## Digital Payment Platforms & Gateways

Digital payment platforms and gateways are financial technology companies (FinTech) that provide or facilitate payment services. Be it Peer to Peer (P2P) payments from mobile apps, Mobile point-of-sale (POS) payment, or swiping/waving debit & credit cards at the merchandise counter, digital payment is the most widely used service by retail customers. PayPal, Visa, Mastercard are the pioneers of the payment services. However, the emergence of mobile e-wallet providers such as AliPay (Ant Financial), Apple Pay, Google pay, Paytm (One97 Communication) has changed the payment landscape significantly.

## Asset Management Company (AMC)

As the name suggests, an AMC manages the pool of funds (for example, mutual fund and pension fund) from investors by investing money into various asset classes. Their primary source of revenue is the fee charged to clients. The fee is usually a percentage of AUM (Asset Under Management). As of March 2021, in terms of AUM, Blackrock is the largest AMC in the world with AUM of about USD 9 trillion, followed by Vanguard Group with USD 7.5 trillion AUM (Advratings, 2021). With an AUM of approx. USD 69.22 billion, SBI Funds Management is the market leader in India, whereas HDFC Asset management stands next with AUM USD 57 billion as of March 2021 (MorningStar, 2021).

## Private Equity (PE) Firms

PE firms raise funds and usually invest them in unlisted companies. The Source of the fund comes from high net worth individuals (HNI) and institutional investors, who are looking for higher returns than markets. Venture Capital is a specialized private equity that invests in start-ups that are likely to grow substantially. Blackstone is the biggest PE in terms of funds raised from 2015 to 2020, a whopping USD 95.9 billion, whereas 2<sup>nd</sup> in the list is Carlyle Group that raised USD 61.7 billion during the same period (Wallach, 2020).

## Exchanges & Broker platforms

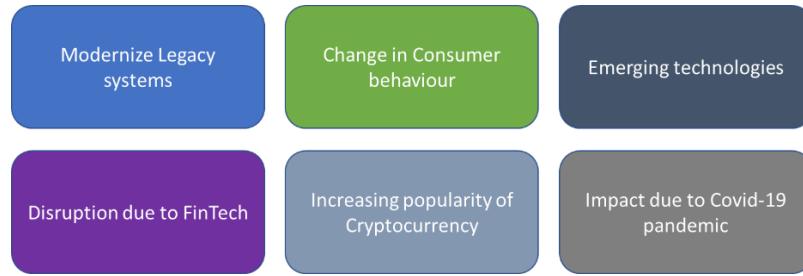
Exchanges are the marketplace where different financial instruments can be bought and sold. Apart from traditional exchanges such as New York Stock Exchange, Nasdaq, BSE, and NSE, crypto exchanges have emerged as a new marketplace for trading cryptocurrencies. Binance, Coinbase, and Upbit are a few of the popular crypto trading exchanges. Modern broker platforms such as Robinhood in the US and Zerodha in India have disrupted the way orders are placed in the exchanges.

## Regulatory Bodies:

To ensure smooth and lawful functioning of the financial market, financial regulatory bodies keep a check on the working of these institutes by stating the dos and don'ts and creating regulations. The U.S Security and Exchange Commission (SEC) is one of the most powerful financial market regulating bodies in the world, whereas the Security and Exchange Board of India (SEBI) is the Indian counterpart. Some other regulatory bodies in different geographies are ESMA (Europe), FCA (the UK), Finma (Swiss), CSRC (China), and JPX-R (Japan).

## Triggers leading to Transformation

Transformation needs immense investment, planning, and resources and may result in the risk of business interruption. Financial institutions have undertaken several transformation initiatives in recent years. It's important to evaluate a few of the many reasons why banking & financial services had transformed themselves in the last few years.



### Modernize Legacy systems

Most financial companies have some and, in many cases, huge dependencies on the legacy systems that are under operation for many years. Usually, the technology and platforms on which these legacy systems have been built are vulnerable to new-age cyber threats. Besides, they do not provide enhanced user experience that clients demand. Furthermore, there are limitations on their scalability, performance, and agility. To address these concerns, business and functional teams collaborate with technology teams to revamp such systems. Most often than not, they decide to retire legacy systems to make a path for advanced applications and products. This gave birth to quite a few big digital transformation initiatives in the last 9 years.

Since these systems are in existence for a long and have integration with so many other upstream and downstream applications, this makes modernization extremely complex. A few of the common challenges are data secrecy, too complex-to-change, insufficient budgets, and resistance to adapt.

## Change in Consumer behavior

The last 9 years saw a significant shift in consumer expectations from the banks and financial institutions. As a result, user experience became the central focus of business strategy in the BFS industry. Mobile technology played a critical role in this paradigm shift. Initially, mobile banking started gaining popularity, especially in developing countries like India and China. As a result, every corporate and retail bank started providing a mobile app that supports essential banking services. However, with the evolution of mobile technologies, these apps started offering most of the banking services. So much so that DBS launched a mobile-only digibank in India in 2016.

As per Ipsos-Forbes Advisor U.S. Weekly Consumer Confidence Survey published in February 2021 (Strohm, 2021), almost 75% of the respondents used banking mobile apps for day-to-day banking activities since February 2020, whereas 21% of the respondents did not use banking apps in the same period. This highlights the increasing inclination of consumer towards digital banking.

## Emerging technologies

Financial institutions embraced disruptive technologies like no other industry. Increased cyber-attacks, limited scalability of existing infrastructure, limited database space to store big data were some of the pain areas for most organizations. Since cloud technology addressed most of these issues, large financial institutions deployed cloud technology to address these issues. Various technology providers offered cloud migration services to these institutions.

To extract meaningful business insight from their extensive data, banks leveraged the potential of analytics. Be it addressing the issue of shrinking customer base, identifying revenue leakages or segmenting right customer for the right product pitch, analytics helped them to make informed business decisions.

Open banking application programming interface (API) has revolutionized business banking. APIs enable technologists to provide the best features and services to banking customers. The adoption of the API platform was an important transformation in the financial industry, and several financial institutions embraced it. Technology advancement in Artificial Intelligence (AI) & Machine Learning (ML) has enabled the practical implementation of these advanced technologies in financial services. A chatbot is one of the superb examples of this implementation. It has reduced response time on customer queries, improved customer experience, and helped eliminate human error. Similarly, another use case of ML is anti-money laundering checks. Blockchain has also shown some promising start in the industry, but experts at CBInsights argue that Blockchain still has to reach its full potential in Financial Services (CBInsights, 2021).

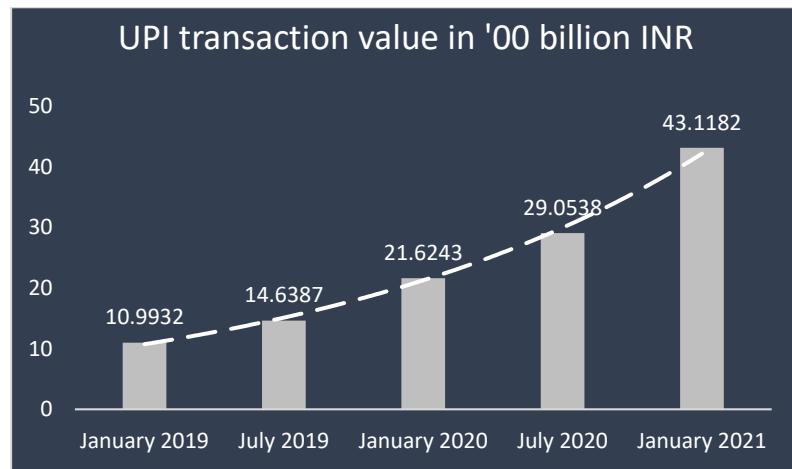
## Disruption due to FinTech

The major disruption in the Banking and Financial Services industry has occurred in payments and transactions. It is primarily the new digital payment platforms from various Fintech that have changed the payment landscape globally. To compete with the threats posed by Fintech, incumbent financial institutions have invested significantly in their technology infrastructure, according to a McKinsey article (Galvin et al., 2018). Wherever possible they have explored opportunities to either partner or invest in leveraging the technological advantage that Fintech offers.

As mentioned earlier, fintech has impacted payments the most, particularly in India and China. With the invention of UPI (Unified Payments Interface), an instant real-time payment system developed by the National Payments Corporation of India, peer-to-peer (P2P) fund transfer and Mobile point of sale (POS) have become smooth and easy for consumers. Pandemic gave an immense boost to these digital payment channels. Building over the UPI platform, Paytm (One97 Communications) & Google Pay apps have seen an upsurge of consumers on their mobile apps, which has reduced the use of banking apps or visits to bank branches and ATMs.

However, incumbent banks are trying to catch up with Fintech by launching their e-wallets. As a result, digital payments saw a massive surge in volume lately. Reflecting the growing trend in UPI Product Statistics, UPI transaction value has almost quadrupled between Jan 2019 and Jan 2021.

**Exhibit 3: Trend in UPI Transactions**



Data Source: NPCI. (March 31, 2021). Value of Unified Payments Interface (UPI) transactions in India from August 2018 to February 2021 (in billion Indian rupees) [Graph]. In Statista. <https://www.statista.com/statistics/1225935/india-value-of-upi-transactions/>

## The increasing popularity of Cryptocurrency

In 2008-09 when pseudonymous Satoshi Nakamoto introduced digital currency Bitcoin to the world, very few would have imagined its influence on the financial industry. The concept of cryptocurrency not only challenged the decaying nature of fiat money but also provided investors with an alternative source of investments. Though

Bitcoin (BTC) remains the most popular cryptocurrency, Ethereum (ETH), Binance Coin (BNB), Dogecoin (DOGE), Ripple XRP are few others that are traded globally. The number of downloads of the 10 biggest cryptocurrency wallet apps worldwide in Dec 2015 was about 148,000, whereas in Dec 2020 it was about 56.3 million (Best, 2021), a vast surge in popularity among users .

Naturally, financial services took note of the disruption that was coming their way. Though there was initial skepticism about crypto as a currency, financial institutions responded assertively by looking at its vast popularity among users. Also, financial institutions gauged the potential of blockchain, a distributed ledger technology acting as a backbone. They started brainstorming on how this disruptive technology can be leveraged in making the financial ecosystem more robust. In the last few years, trade finance platforms leveraged the power of blockchain to make international payments more secure, transparent, and faster. Due to the technology's decentralized nature, clearing and settlement divisions also implemented blockchain to reduce errors. As per Deloitte's 2021 Global Blockchain Survey, over 80% of the responding executives said that blockchain has achieved mainstream adoption (Pawczuk, Walker, & Tanco, 2021).

The cryptocurrency market is booming at approx. USD 2 trillion worldwide. Financial institutions are taking a piece of the pie from this promising market by investing heavily, approx. USD 3 billion, in cryptocurrency and blockchain companies (Mozée, 2021). 55 out of 100 world's biggest banks in terms of AUM are investing in companies or projects related to digital assets & blockchain (Wouters, 2021). To enhance capabilities, most of these financial institutions invested in Fintech that provides blockchain and crypto platforms or products that can support their service offerings. Coinbase (cryptocurrency exchange), Fireblocks (crypto custodian of digital assets), and Cobalt (trading technology provider) are a few of such Fintech.

Realizing the potential, banks also started projects to launch their digital currencies and corresponding platforms. As per a BCG report, JPMorgan Chase introduced JPM Coin, its cryptocurrency in 2019. Morgan Stanley has already started offering blockchain-based investment platforms since 2018 (Mogul et al., 2020).

### **Impact due to Covid-19 pandemic**

Due to the global integration and transactional nature of the businesses, the outbreak of the Covid-19 pandemic has tested business continuity management and operational resiliency of Banking & Financial Services. The major workforce in the sector works from the offices or client sites. However, due to lockdowns in the majority of the countries, employees had to work remotely. Initially, there were security concerns related to confidentiality of data, but companies transitioned smoothly to the new work pattern with minimum impact on the business.

As per the Reserve Bank of India 2020-21 annual report, the value & volume of digital payments in India took a dip between February 2020 and June 2020, when India was under a complete lockdown. However, digital payment saw a steep rise as soon as restrictions were eased (Reserve Bank of India, 2021). The trend was similar across the geographies.

As per PwC US CFO Pulse Survey conducted with CFO from Financial Services in the U.S to understand the impact of Covid-19 on the organizations, 78% of CFOs thinks that they expect decrease revenue or profit (PwC, 2020).

## Way Forward

Post pandemic, as the offices are opening up, the Financial industry must re-work their permanent working model. With the success of remote working during the pandemic, the hybrid model (mix of remote and on-premise) seems more practical. If financial institutions adopt pre-Covid style of working, this may find resistance from the internal staff. At the same time, maintaining synergy among the teams would be a challenge while working remotely, something management has to address. Getting back to the path of growth post-pandemic would also be a big challenge for BFS going forward.

However, the pandemic has accelerated the use of digital channels in the banking sector more than ever. Consumers have all the more reasons to not visit a branch till the impact of Covid-19 is neutralized completely, which anyway doesn't seem to happen anytime soon. Financial Services would reap the fruits of the digital transformations they have undertaken in the last few years.

Fintech would continue to contribute to the advancement of technologies in the financial industry. Technology expertise of tech giants (such as Facebook, Amazon, Apple, Google, and Alibaba) would push the incumbent financial institutions to invest more into innovative technology products. Regulators across the globe have started to clear their stance on cryptocurrency and are coming up with clear regulatory guidelines around it. Financial Services must develop a solid business strategy and future road map for digital assets. The evolution of Financial Services will continue and may even accelerate in coming years.

## References

Advratings. (2021). World's Top Asset Management Firms. March 31, 2021. Retrieved from <https://www.advratings.com/top-asset-management-firms>

Best, R. D. (2021). Downloads of the biggest cryptocurrency wallet apps worldwide 2014-2021. July 29, 2021. Airnowdata. Retrieved from Statista: <https://www.statista.com/statistics/1206516/global-cryptocurrency-app-downloads/>

CBInsights. (2021). How Blockchain Could Disrupt Banking. February 11, 2021. Retrieved from <https://www.cbinsights.com/research/blockchain-disrupting-banking/>

Galvin et al. (2018). Synergy and disruption: Ten trends shaping fintech. December 17, 2018. Retrieved from <https://www.mckinsey.com/industries/financial-services/our-insights/synergy-and-disruption-ten-trends-shaping-fintech>

Mogul et al. (2020). How Banks Can Succeed with Cryptocurrency. November 5, 2020. Retrieved from <https://www.bcg.com/publications/2020/how-banks-can-succeed-with-cryptocurrency>

MorningStar. (2021). Average AUM by AMC. March 31, 2021. Retrieved from <https://www.morningstar.in/tools/mutual-fund-amfi-average-aum-by-fund-house.aspx>

Mozée, C. (2021). These 13 banks have invested the most in crypto and blockchain to date. Business Insider. August 15, 2021. Retrieved from <https://markets.businessinsider.com/news/currencies/13-top-banks-investing-cryptocurrency-blockchain-technology-funding-blockdata-bitcoin-2021-8>

NCPI. (2021). Value of UPI transactions in India from August 2018 to February 2021. Retrieved from statista: <https://www.statista.com/statistics/1225935/india-value-of-upi-transactions/>

Norrestad, F. (2021). Market share of revenue of leading global investment banks 2021. Wall Street Journal. April 27, 2021. Retrieved from Statista: <https://www.statista.com/statistics/271008/global-market-share-of-investment-banks/>

Pawczuk, L., Walker, R., & Tanco, C. C. (2021). Deloitte's 2021 Global Blockchain Survey. Deloitte Touche Tohmatsu Limited. Retrieved from <https://www2.deloitte.com/us/en/insights/topics/understanding-blockchain-potential/global-blockchain-survey.html>

PwC. (2020). PwC US CFO Pulse Survey. July 15, 2020. Retrieved from <https://www.pwc.com/us/en/library/covid-19/pwc-covid-19-cfo-pulse-survey.html>

PwC. (2020). PwC US CFO Pulse Survey. PwC. July 15, 2020. Retrieved from <https://www.pwc.com/us/en/library/covid-19/pwc-covid-19-cfo-pulse-survey.html>

Reserve Bank of India. (2021). RBI Annual Report 2021. Retrieved from <https://www.rbi.org.in/scripts/AnnualReportPublications.aspx?Id=1322>

Strohm, M. (2021). Digital Banking Survey. February 24, 2021. Retrieved from <https://www.forbes.com/advisor/banking/digital-banking-survey-mobile-app-valuable-features/>

Wallach, O. (2020). The 25 Largest Private Equity Firms. November 4, 2020. Retrieved from <https://www.visualcapitalist.com/25-largest-private-equity-firms-chart/>

Wouters, S. (2021). Top Banks Investing in Crypto & Blockchain Companies. August 2021. Retrieved from <https://www.blockdata.tech/blog/general/banks-investing-blockchain-companies>

\*\*\*\*\*

# Role of NBFC-MFIs in Financial Inclusion in India

## Teerna Chatterjee



*Teerna Chatterjee is currently working as a credit manager at the Indian Bank (formerly Allahabad Bank). She has close to ten years of work experience in the banking sector, working in the agricultural credit as well as in the general credit departments. She did her Masters in Agriculture from Bidhan Chandra Krishi Viswavidyalaya (BCKV), West Bengal.*

### INTRODUCTION

In a broader sense, financial inclusion involves providing banking-related services at a reasonable cost to low-income and disadvantaged sections of society (Kumar, 2013). Reserve Bank of India (RBI) defines financial inclusion as “ensuring access to an array of basic formal financial services and products and scaling up awareness initiatives”.<sup>4</sup> Financial inclusion objectives can be achieved by initiating banking facilities across different sections of the society, regions, gender, and income groups and encouraging the masses to embrace banking. The National Strategy for Financial Inclusion (NSFI) in their 2019-24 plan includes the vision of financial inclusion and how India can frame policies by aligning the actions of all stakeholders in the financial sector (RBI, 2020).

The journey of financial inclusion in India evolved in the 1950s when initiatives were taken targeting the neglected sections of society. The initiatives involved properly channelizing credit and making it accessible to the neglected sections (Das, 2021). Initiatives such as the expansion of banking network through new branches in the rural areas, introduction of Priority Sector Lending (PSL), launching of Lead Bank Scheme, promoting Self-Help Groups (SHGs), implementation of Business Correspondents (BC) model, to name a few. The brick-and-mortar branches, accompanied by the Business Correspondents model, have enhanced the presence of the banking system to the remotest corner of the country, thereby contributing towards financial inclusion in the early years post-independence. However, in recent years, we have witnessed the banking network contributing towards an exponential expansion of financial inclusion through major initiatives like the Jan Dhan, Aadhaar, and Mobile (JAM) trident bringing in a tectonic shift in its domain (Das, 2021).

It is worthwhile to note that financial inclusion plays a significant role in poverty alleviation and decreasing income inequality as with more people coming under the ambit of banking and accessing financial services,

<sup>4</sup> [https://www.rbi.org.in/scripts/FS\\_Overview.aspx?fn=2754](https://www.rbi.org.in/scripts/FS_Overview.aspx?fn=2754)

poverty rates decline as the consumption patterns smoothen (Park and Mercado, 2015). Additionally, financial inclusion helps more people engage in production activities (Park and Mercado, 2015). Further, extant research shows that entrepreneurship plays a pivotal role in poverty alleviation (Sutter et al., 2019). However, in the absence of financial inclusion, the flow of institutional credit to the budding entrepreneurs creates a roadblock. Mostly, those with poor financial conditions prefer to borrow from relatives, accomplices, and professional moneylenders due to their lack of access to institutional credit. However, credit from these sources is often expensive. With their competitive advantage, the co-lending model by banks and NBFCs aims to improve the flow of credit to different sectors, such as priority sector, MSMEs, agriculture sector, and SHGs, communities like SC/ST, and minorities. Thus, people belonging to the economically weaker sections, without access to bank credit, rely on NBFCs to meet their credit requirements.

## HISTORY OF NBFC-MFI

An NBFC is a financial intermediary providing an alternative credit flow to the commercial sector (RBI, 2019). In a country like India, where the financial system is being dominated by banks, NBFCs occupy a unique space. They supply credit to sectors where the commercial banks have limited penetration, especially in niche areas such as commercial vehicles, infrastructure loans, hire purchases, and financing of physical assets (SIDBI, 2020). Reserve Bank of India (RBI) has defined an NBFC as

*“a company registered under the Companies Act, 1956 engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property.”* (RBI, 2017)

Further, as per RBI (2017), the NBFCs are different from the traditional banks in three ways: First, NBFCs cannot accept demand deposits. Furthermore, they cannot participate in the payment and settlement system or issue cheques drawn on themselves. Finally, their depositors cannot avail of any deposit insurance and credit guarantee facilities.

The Indian Banking sector has demonstrated incredible growth both in volume and complexity of operations in the past decade. The sector has made noteworthy developments in financial viability, profitability, and competitiveness. Still, there are apprehensions that disadvantaged sections are largely untouched by the banking services. In this context, efforts focused on financial inclusion it can genuinely boost the financial condition and standard of life of the poor and underprivileged (Subbarao 2009). While there are 600,000 habitations in India, Subbarao (2009) also points that commercial banks cover only about 30,000.

With a size of \$0.4 trillion, the NBFC sector's potential cannot be ignored. Their role is paramount in promoting financial inclusion and driving the Indian Economy on the path of continuous advancement. One of RBI's key regulatory initiatives to improve the role of NBFCs in Financial Inclusion was the creation of NBFC-MFIs in 2011. Some NBFC-MFIs are not even profitability-driven (commonly referred to as NGO-MFI) but work with the primary objective of making financial services accessible to one and all.

**Microfinance:** There have always been efforts to provide reasonable credit to poor borrowers. Therefore, many attempts have been made to establish organizations for directly supplying credit to the poor. It is to be noted that in comparison to the traditional microcredit, the scale and visibility of the modern ones are unprecedented in terms of credit access for the poor. The penetration of the microfinance sector in an emerging economy like India is unparalleled. The market size microfinance sector in India has surpassed Rs. 50,000 crores, making the Indian microfinance market one of the largest in the world (Chakrabarti and Sanyal, 2016).

The advent of microcredit in India started in the 1970s, although the drive to bring the poor under institutionalized credit began soon after independence. However, during these two decades, the primary focus of extending institutionalized credit has been restricted mainly to the agricultural sector for the benefit of small and marginal farmers (Chakrabarti and Sanyal, 2016). The state-owned development finance institutions or farmers' cooperatives were instrumental towards such a focused strategy of extending institutionalized credit at below-market interest rates. For instance, the role of SEWA Bank, established in 1974, is noteworthy. The bank has played a key role in the upliftment of working women from marginally weaker sections of society.

The 1980s witnessed a paradigm shift in lending networks, with Self-Help Groups (SHGs) replacing rural chit funds and informal lending networks. With the collaboration from institutions like The Mysore Resettlement and Development Agency (MYRADA) and National Bank for Agricultural and Rural Development (NABARD), these SHGs got connected to banks.

With economic liberalization in the 1990s, there was a surge in entrepreneurial needs with more and more individuals and groups seeking microcredit. As a result, the microfinance sector saw huge traction towards the late 1990s. These entrepreneurial needs were satisfied by specialized MFIs, which saw a tremendous rise post-1991 with the entry of a large number of private players, who sensed a vast potential in this segment. For the private players, MFI is an umbrella term that includes NGOs, cooperative societies, and NBFCs. It is also worthwhile to note that the entry of the private players added diversity in terms of the different financial products and services available to the budding entrepreneurs seeking credit needs. Further, the diversity is not only restricted to the products and services but also includes a plethora of delivery models. Due to the MFI sector's relatively low competition, a huge potential clientele base, and long-term growth prospects, many players started getting attracted to it. Another factor contributing to the rise of MFIs was a lack of regulation (Chakrabarti and Sanyal, 2016).

Within two decades, the surge in the MFIs has been unprecedented, with the clientele base of the MFIs reaching over 31 million in 2011. However, this MFI growth story was affected by events like the Andhra Pradesh crisis of 2011, when several MFIs suffered severe losses due to defaults by their clients. These MFIs ended with negative net worth and could not raise money from banks to disburse new loans to the clients. Their banks were reluctant, having lost faith in the repayment ability of these MFIs. We can draw parallels with the sub-prime crisis in the United States. One of the reasons for such a crisis was the near absence of regulation in the MFI sector. Hence, it was necessary to create a regulatory framework for the sector. The regulatory interventions of 2011 and 2012 brought in more transparency, reporting structures, and client protection and helped the microfinance sector to withstand the crisis (CARE Ratings 2014).

**Small Finance Bank:** The past few years saw the entry of the Small Finance Banks that focused on bringing financial inclusion. The success of these banks has been quite impressive due to providing borrowers with small credit needs. The MSMEs, in particular, have been the real beneficiaries of these banks. A proper regulatory framework like the 2014 licensing guidelines has created a major thrust towards the rise of these SFBs. As many as ten such banks have become operational since then. Even though most of these SFBs have emerged from microfinance institutions (MFIs), exceptions do exist. The success of the SFBs, especially those emerging from MFIs, can be linked to the existing well-developed network of customers attached to the MFIs that primarily belong to the middle and low-income groups. These MFIs have also benefitted from a lower cost of funds following the access to deposits.

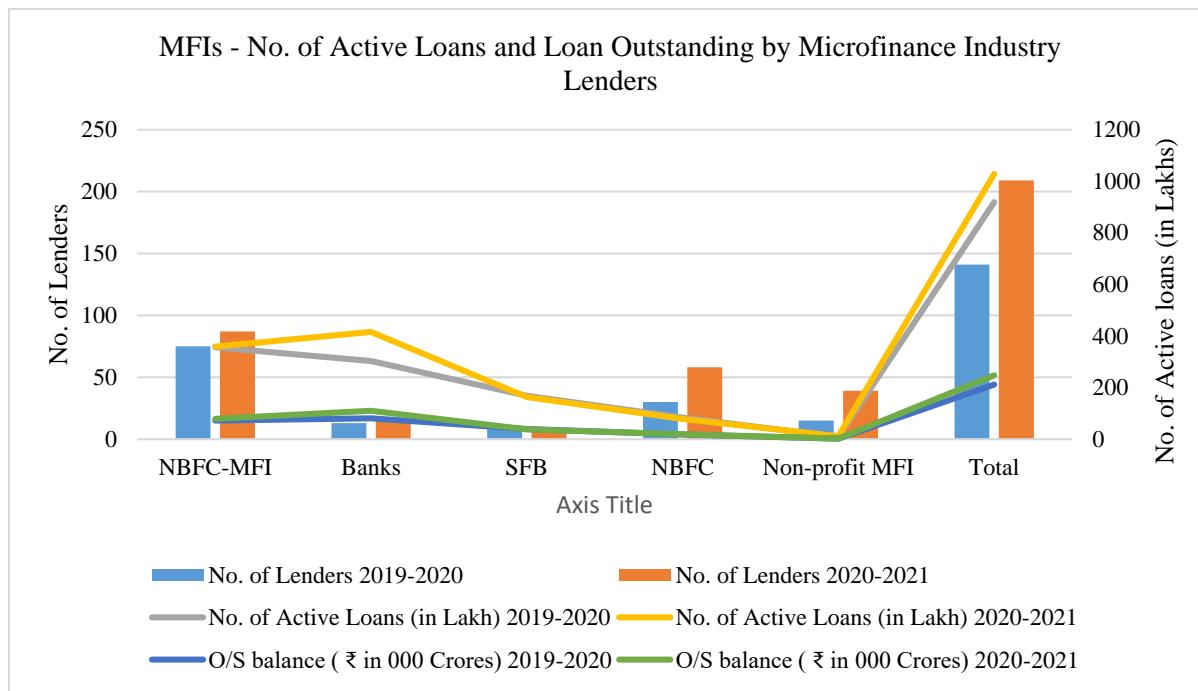
## GROWTH OF MFI OPERATIONS DURING 2020-21

As mentioned earlier, the umbrella term MFI comprises several players that can be broadly categorized under the following groups: NBFC-MFIs, Banks, SFBs, NBFCs, and Non-profit MFIs. With the exception of the Non-profit MFIs, the rest are regulated by the RBI. The Non-profit MFIs are largely registered as societies or trusts and are thus regulated by the corresponding acts. We have depicted the growth of these players in terms of the number of lenders, active loans, and outstanding balance from the previous year in Figure 1. Figure 2 presents the amount disbursed by various groups of lenders in the microfinance industry.

As shown in Figure 1, compared to 2019-20, where there were 141 lenders, the number of lenders has increased to 209 in 2020-21, thereby showing close to 50% increase in a year with the contribution of the NBFCs and non-profit MFIs has been stupendous in terms of growth percentage. The NBFC-MFIs are also not far behind and show tremendous growth potential. Furthermore, Figure 1 indicates that the number of active loans (borrowers) are estimated at 10.28 crore with an overall growth of 12% in comparison to the financial year 2019-20. Further,

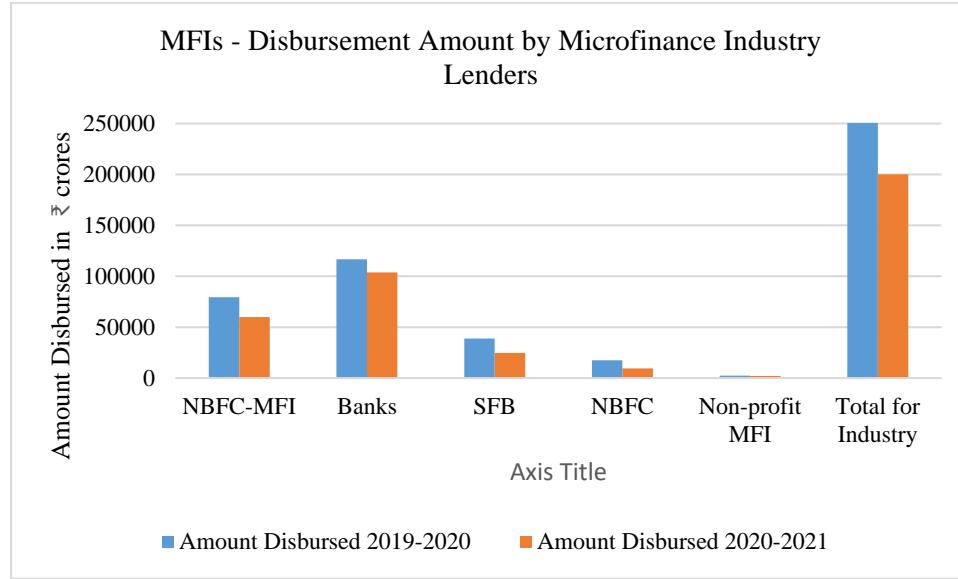
the overall industry-wide loan outstanding as of 31st March 2021 is estimated at Rs. 247,839 crores with an overall growth of 17%, in comparison to the financial year 2019-20.

**Figure 1: Distribution of Lenders and Loans Outstanding in Microfinance Sector**



*Source: Status of Microfinance in India NABARD 2021*

**Figure 2: Disbursement Amount by Microfinance Industry Lenders**



*Source: Status of Microfinance in India NABARD 2021*

However, the overall performance of MFIs shows that Covid-19 has affected the business for all the players during 2020-21, as given in Figure 2. The industry has further disbursed 553 lakh loans during the same financial year. When compared against the loans disbursed in 2019-20, there is a downfall of 182 lakhs. Further, the loan

amount also saw a downfall of over 50 thousand crores in 2020-21 when compared against 2019-20. NBFC-MFIs had disbursed loans amounting to Rs. 79,416 crores in 2019-20, which has come down to Rs. 59,867 crores in 2020-21. In comparison to the previous year lending has decreased by 25% and 21% each in terms of active loan accounts and the amount of loan disbursed, respectively.

## CONCLUSIONS

Financial inclusion is critical towards poverty alleviation and reduction of income inequality; however, access to institutionalized credit supporting entrepreneurial needs is limited. NBFCs-MFIs can however fill the existing gap and bring in more people under the ambit of institutionalized credit, thereby paving the way towards financial inclusion.

## REFERENCE

CARE Ratings (2014). Indian microfinance sector: Entering a phase of moderate credit risk, three years post AP crisis. March 7, 2014. Mumbai. Accessed from

<https://www.careratings.com/uploads/newsfiles/CARE%20Ratings%20-%20Report%20on%20Microfinance%20Sector.pdf>

Chakrabarti, R., & Sanyal, K. (2016). Microfinance and financial inclusion in India. In *Financial inclusion in Asia* (pp. 209-256). Palgrave Macmillan, London.

Das, S. Financial Inclusion – Past, Present and Future. Accessed from

<https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/1FINANCIALINCLUSION656B18541E7349EF963F6BD3EF0E014B.PDF#:~:text=Financial%20Inclusion%20%80%93%20Past%2C%20Present%20and%20Future%20to,informed%20decision%20by%20enhancing%20transparency%20of%20loan%20pricing.>

Kumar, N. (2013). Financial inclusion and its determinants: evidence from India. *Journal of Financial Economic Policy*.

NABARD 2021. Status of Microfinance in India. Accessed from

<https://www.nabard.org/auth/writereaddata/tender/1207215910SoMFI%202020-21.pdf>

Park, C. Y., & Mercado, R. (2015). Financial inclusion, poverty, and income inequality in developing Asia. *Asian Development Bank Economics Working Paper Series*, (426).

RBI (2017). Frequently asked questions: All you wanted to know about NBFCs. Accessed from

<https://www.rbi.org.in/Scripts/FAQView.aspx?Id=92>

RBI (2019). Non-Banking Financial Institutions. Accessed from

<https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=19367>

RBI (2020). National Strategy for Financial Inclusion (NSFI): 2019-2024. Accessed from

[https://www.rbi.org.in/SCRIPTs/BS\\_PressReleaseDisplay.aspx?p\\_rid=49116](https://www.rbi.org.in/SCRIPTs/BS_PressReleaseDisplay.aspx?p_rid=49116)

SIDBI (2020). Loan Policy. Accessed from [https://www.sidbi.in/files/publicationreport/Loan\\_Policy-2020.pdf](https://www.sidbi.in/files/publicationreport/Loan_Policy-2020.pdf)

Subbarao, D. (2009). Financial Inclusion: Challenges and Opportunities. RBI Speech. Accessed from [https://www.rbi.org.in/scripts/BS\\_SpeechesView.aspx?Id=452](https://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=452)

Sutter, C., Bruton, G. D., & Chen, J. (2019). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of Business Venturing*, 34(1), 197-214.

\*\*\*\*\*

# Adopting a Stakeholder Approach of Corporate Governance to Combat the Covid-19 Crisis

**Sadrita Deb**



*Sadrita Deb is an assistant professor at Bharathidasan Institute of Management, Trichy, after submitting her doctoral thesis at Vinod Gupta School of Management, IIT Kharagpur. Her research interests include financial governance, corporate governance, corporate fraud, accounting controls, audit, and disclosures. She worked as a Teaching Assistant for the Finance course at IIM Calcutta from 2015-16, before joining her Ph.D. program.*

## 1. Introduction

On January 10, 2020, the World Health Organisation (WHO) reported the worldwide outbreak, including China, where the first case was reported, of the emergence of a novel infectious disease (World Health Organisation, 2021). The novel coronavirus or Covid-19 posed a global threat to human health, reporting daily cases of massive infections and death worldwide. The transmissible nature of the disease forced countries globally to follow strict social or physical distancing protocols that resulted in disruption to everyday life.

Merriam-Webster (2020) defines a pandemic as a disease outbreak that significantly affects a large population across multiple countries. The wide geographical spread through transmission at a high rate of a contagious novel virus and the severe impact on a global scale made Covid-19 a pandemic within a short period.

The World Economic Forum (2020) mentions that as poverty increased to more than 100 million people, food wastage also significantly increased at the same time. The pandemic posed a severe threat to human lives, the social environment, and the economy. The global economy contracted by 3 percent in April 2020, a significant downfall in such a short period (International Monetary Fund, 2020). The crisis exposes the shortcomings in health and societal infrastructure concerning a pandemic disaster. The emerging markets are likely to face additional challenges on the economic front, such as the massive outflow of capital, weakening currency, high level of debt, and minimal fiscal support than the advanced nations.

The corporate sector in India is facing unprecedented challenges to run its daily operations smoothly. With sudden lockdowns and disruption of economic activities, operating cycles got prolonged. Demand for certain items diminished, and customer preferences changed drastically—this reduced revenue generation in specific sectors impeding the cash flow cycle. Organizations resorted to desperate measures such as lay-offs, pay cuts, allocation

of resources to limited areas to keep their operations going. Therefore, it is interesting to discuss the governance of firms in the face of the pandemic.

For the industrial sector to survive the global crisis, it must adapt and build resilience to the situation. Transparent corporate governance mechanisms, robust internal control systems, and proactive regulatory bodies have a crucial role. It is essential to adopt resilient corporate governance to earn the waning confidence of the investors and other stakeholders. This article discusses how the stakeholder model of corporate governance is more effective than the traditional shareholders' wealth creation in tackling a pandemic crisis.

## **2. Adopting the stakeholder model of Corporate Governance**

### **2.1. The Stakeholder Model**

The Covid-19 pandemic is increasing the pressure on boards and top managers to run the organization sustainably. A firm's corporate governance should meet the needs of its various stakeholders and preserve its socially responsible image for long-term benefits.

The traditional theory of corporate governance, proposed by Friedman in 1970, suggests profit maximization for the shareholders as the sole purpose (Friedman, 1970). Friedman's theory emphasizes the corporation as the private ownership of the shareholders who appoint agents to run the company on their behalf. Therefore, the agents must serve the interest of the principal and maximize their wealth. During the Covid-19 pandemic, the traditional theory seems inadequate as the crisis affected the vested interests of the community as a whole.

An alternative to Friedman's shareholder theory is the stakeholder theory proposed by R. Edward Freeman in 1984. The stakeholder theory posits that an organization should account for all individuals or groups interconnected with the organizational purpose. The concept of stakeholders includes shareholders, customers, employees, suppliers, governments, competitors, consumer advocates, environmentalists, special interest groups, and media (Freeman and McVea, 2001).

Therefore, the stakeholder theory is an approach to consider each group of stakeholders in the long and short-term, including the possibility that the continuing independence of the corporation might best serve these interests. The model focuses on optimizing the simultaneous needs of multiple stakeholders and helps the organization in building trust.

A stakeholder approach to corporate governance helps a firm remain proactive and adaptive during a crisis (Alpaslan et al., 2009). With the changing business environment, firms should aim towards an inclusive corporate

governance mechanism that considers the interests of their employees, suppliers, customers, the government, the community, and the environment, both in the short and the long term. Their board of directors must illustrate the firm's accountability towards all groups with a vested interest in the company. The organization should run so that the needs of the stakeholders are at the center.

Stakeholder theory does not reduce the liability of the management towards the shareholders in any way. However, this theory increases their accountability towards others with a vested interest in the company. It does not imply the priority of one group (shareholders) but helps in understanding the prevailing crisis and with thoughtful consideration cater to those stakeholders that are of first concern. For example, some companies can choose to prioritize the well-being and safety of employees in the pandemic second wave. A few months later, when the number of cases reduces, they might prioritize eco-friendly policies. With this approach, no single group of stakeholders is superior to others, and shareholders are not the only primary concern of the organization.

The Indian corporate law, for several years, has recognized the importance of stakeholders' interest than merely protecting the rights of only the shareholders. For example, sections 529 and 530 of the erstwhile Companies Act, 1956 conferred the rights to preferential treatment to workers and creditors in terms of payment during insolvency or amalgamation. Further, section 166(2) of the Companies Act, 2013 specifies the duty of a director to deliver a better corporate purpose while maximizing the stakeholders' value. The new companies act requires directors to treat all stakeholders equally and take a holistic approach based on the stakeholder model theory of corporate governance.

However, shareholders' interest is pre-dominant, and other stakeholders often fail to assert their rights. Thus, organizations must adopt a more structured approach to develop a connection with their stakeholders. The primary concern involves identifying the multiple stakeholder groups associated with the corporate body and the adverse impact due to the pandemic.

## **2.2. Minimizing the impact of Covid-19 pandemic on stakeholders**

The Covid-19 pandemic exposed the interdependence among stakeholders with the organization and the importance of a stakeholder approach for long-term sustainability. Firms should devise ways to minimize the adverse effect on the different groups of stakeholders. The organization must focus on understanding how each stakeholder might react in this pandemic and take necessary measures.

One of the significant roles of the corporate in the pandemic is to fulfill its responsibility towards civil society. The organizations must focus on fulfilling their role of corporate citizenship; an objective often overlooked in the

shareholders' model approach of governance. Covid-19, a public health crisis, eventually affected the economy and financial sector, thus raising the alarm for corporates to reconnect with society at large. The advent of the pandemic left some firms with low demands, while few others faced enormous demands, and another group had to look for innovative ways to keep their operations going.

Recognizing the value of societal problems as business concerns, a few firms came forward to help in the relief efforts or public care and other philanthropic activities, recognizing the need of the hour to be stakeholder-centric. Some noteworthy examples include Tata Sons' pledge of Rs. 1000 crore for providing PPE kits and medical equipment, setting up healthcare facilities, and training and knowledge management of frontline workers and the general public (Bloomberg Quint Desk, 2020). Food delivery service aggregator, Zomato, set up the Feeding India fund to support their delivery staff and daily wage earners who lost their earnings during the pandemic. As of January 2021, Zomato provided over 123 million meal kits to starving families in India (Zomato,2021).

It is, therefore, the responsibility of the board of directors to pursue strategic policymaking to make the management realize that social issues caused by the pandemic are not standalone but are a concern for the business, too. The management must address the risk and opportunities from the large-scale societal problems and consider them part of their risk management program. Such endeavors might create a positive image among existing and potential investors. A stakeholder model is appropriate for creating such valued relationships with society at large.

Reports during the pandemic show a considerable pay gap among employees. In the light of the crisis, it became increasingly difficult for executives to attain revenue targets essential to achieving cash-based compensation or bonus stocks. The variable pay component linked to performance targets for the senior management reduced by 85% in 2020-21 (Umarji, 2021). In contrast, some companies chose to pay more to their top management, whereas the middle and lower levels faced entrenchment or pay cuts.

A stakeholder approach prompted the board and senior management of companies like Apollo Tyres and Larsen & Toubro to accept temporary pay cuts to show solidarity with job losses at the lower levels (Mukherjee, 2020). Other initiatives adopted by few organizations were helping the laid-off employees procure jobs elsewhere and voluntary lay-off schemes.

Deviating from the remuneration policies based on the agency theory of creating wealth for shareholders, the board should devise an optimum compensation for its employees and show support amidst this crisis. Although these are short-term initiatives, they provide a foundation for the organizations to focus on compensation policies

across levels. The board must adopt retention programs and align payment structures with changing business conditions in the long run.

The supply chain and operating cycle were disrupted after the first phase of lockdown in March 2020 in India. Raw materials failed to reach the production plants as the movement was restricted. Due to a shortage of workforce and concerns about safety, production at factories came to a halt. The demand for non-essential goods fell significantly in the market. On a regional and global scale, disruption in the supply chain caused impediments in the cash flow cycle and increased financial liabilities of the organizations. There is a significant impact on the stakeholders involved, such as the suppliers or creditors.

Haydon and Kumar (2020) reflect that the severity of the Covid-19 pandemic varies across industries. While supply chain operations of non-essential services and products got hugely affected, the corporate sector and its suppliers strived hard to keep the essential services smooth. As the economy might face a third wave of COVID-19, corporates need to develop a resilient supply chain network. It is necessary to build a robust supply chain that might be resistant to future disruptions. It should develop an efficient workforce to communicate with the suppliers on a real-time basis. A dedicated planning and execution workforce could help reduce the gap between suppliers and the organization, increasing the system's efficacy. Corporations can use technological tools such as artificial intelligence and simulation to strengthen supply chain management.

Covid-19 pandemic has changed the demands and preferences of the customers, too. A significant shift in customer preferences is taking place from brick-mortar stores to online platforms. During 2020-21, e-commerce purchases surged by 28% than pre-pandemic in India (Singhi et al., 2021). Customer queries would differ with the switch to e-commerce platforms. Customers might be wary about the hygiene, timely delivery, maintenance of protocols while packing their goods, the quality of their purchases, and value for money. The pandemic has changed how customer purchases a product or service and their choice of products. For example, retail clothing brands experienced a fall in formal wear sales and a rise in home wear demands.

Hence, organizations must focus on customer-driven initiatives to address customers' concerns. They might train their sales staff for sales through digital platforms or interaction. With new channels of marketing, there exists severe pressure on management to strategize customer-centric issues. The organization must study consumer behavior and customize services for them.

The implication of the Covid-19 pandemic might be enduring on the financial market and corporate sector. The global financial markets bore the brunt of the pandemic. The first wave witnessed a rapid decline in stock prices and an economic downturn lowering investors' confidence. In India, too, during March 2020, the stock markets were highly volatile and investor sentiments negative. Post lockdown announcement, on March 23, 2020, the S & P BSE Sensex index witnessed an abysmal decline of 13 percent due to the weak sentiments over the spread

of coronavirus. The magnitude of the stock price fall in March 2020 exceeded the decline of stock prices during the financial crisis of 2007-08 (Mazur et al., 2021). Two days later, with the news of government fiscal packages, the market showed positive signs of recovery. Volatile positive and negative moves projecting extreme economic conditions are not conducive to investments (Baker et al., 2020).

The corporate sector faces several constraints in meeting regulatory requirements now. For example, the fiscal year-end date in India, March 31, 2020, was within the lockdown period. As a result, audit firms could not efficiently carry out the physical verification of stocks during statutory audits, which usually takes place at the end of the financial year in March.

The uncertainty and desperate attempt to keep a firm's operations going and ensure profitability could motivate the managers to indulge in unethical behavior. Due to the unprecedented calamity, the operational challenges and financial crisis might pressure the board or management to indulge in fraudulent activities (Rezaee, 2005).

The economic meltdown due to the pandemic impedes growth, affecting a firm's ability to meet its forecasts. Therefore, to conceal the shortcomings, manipulation of financial reports is a viable option for most organizations. Further, the global economic environment is likely to experience a downturn, impacting both the developed and emerging nations. Extreme volatility in the climate might trigger bankruptcy cases, drop-in investments, and failure of specific industries dampening the investors' confidence.

The corporate bodies must evaluate the existing control system and place an internal control mechanism effective in the long run. Timely corrective actions could prevent financial or reputational loss. Also, an effective corporate governance structure focusing on stakeholders is beneficial to gain investor confidence in uncertain times. Connecting with its essential stakeholders such as employees or society at large would help create a positive image among investors in the long run.

### **3. Conclusion**

This article provides a brief overview of the stakeholder theory approach and its relevance for running the affairs of an organization amidst the pandemic. When a business adopts a holistic and inclusive approach by reconnecting to all its stakeholders, it might sustain itself more successfully over the long term. The pandemic requires corporates to re-invent their values and purpose. A relook into a company's purpose beyond financial performance might help achieve better corporate governance.

Although the literature on stakeholder theory considers it as a cumbersome approach for management, in the current situation, inter-connectedness with the stakeholder's groups by the organization would not only help address the needs but portray a favorable image of the company in the minds of the society, an essential element

for sustainability. The Covid-19 has exposed the corporate sector's shortcomings and the threat posed by human activities on nature. Corporate laws have included provisions that help create an inclusive environment, but in reality, corporate bodies mostly stay focused on shareholder wealth maximization.

Firms are gradually responding to the external environment pressure now and focusing on the environmental or social issues that could help them grow sustainably. Organizations appear better prepared for the third wave of the pandemic by stepping up vaccination among employees and collaborating with the government at various levels to reduce health risks and economic impact. The corporate approach should be, thus, towards better leadership that adopts multi-stakeholder models to tackle and survive the pandemic crisis.

## References

- Alpaslan, C. M., Green, S. E., & Mitroff, I. I. (2009). Corporate governance in the context of crises: towards a stakeholder theory of crisis management. *Journal of contingencies and crisis management*, 17(1), 38-49.
- Baker, S. R., Bloom, N., Davis, S. J., Kost, K., Sammon, M., & Viratyosin, T. (2020). The unusual stock market reaction to COVID-19. *The Review of Asset Pricing Studies*, 10(4), 742-758.
- Bloomberg Quint Desk (2020, March 28). Tata Sons pledges Rs. 1000 crore for combatting Covid-19.  
*Bloomberg Quint*. <https://www.bloombergquint.com/business/tata-sons-pledges-rs-1000-crore-for-combating-covid-19>
- Companies Act, Chapter V, Sections 529-530 (1956).  
[https://www.mca.gov.in/Ministry/pdf/Companies\\_Act\\_1956\\_13jun2011.pdf](https://www.mca.gov.in/Ministry/pdf/Companies_Act_1956_13jun2011.pdf)
- Companies Act, Section 166 (2) (2013).  
[http://ebook.mca.gov.in/Default.aspx?page=applicability&rg\\_applicabilityChangePage=4](http://ebook.mca.gov.in/Default.aspx?page=applicability&rg_applicabilityChangePage=4)
- Freeman, R. E., & McVea, J. (2001). A stakeholder approach to strategic management. Retrieved June 30, 2021, from <http://dx.doi.org/10.2139/ssrn.263511>
- Friedman, M. (1970, September 13). The Social responsibility of business is to increase its profits. *The New York Times*. <https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html>
- Haydon, D & Kumar, N. (2020, September 21). Industries most and least impacted by Covid-19 from a probability of default perspective-September 2020 update. *S&P Global Market Intelligence*.  
<https://www.spglobal.com/marketintelligence/en/news-insights/blog/industries-most-and-least-impacted-by-covid19-from-a-probability-of-default-perspective-september-2020-update>
- International Monetary Fund (2020). *World economic outlook: the great lockdown*.  
<https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/World-Economic-Outlook-April-2020-The-Great-Lockdown-49306>

- Mazur, M., Dang, M., & Vega, M. (2021). COVID-19 and the march 2020 stock market crash. Evidence from S&P1500. *Finance Research Letters*, 38, 101690, pp. 1-8.
- Merriam-Webster. (2020). Merriam-Webster's word of the year 2020. *Merriam-Webster.com*. Retrieved July 2, 2021, from <https://www.merriam-webster.com/words-at-play/word-of-the-year/pandemic>
- Mukherjee, S. (2020, March 20). Apollo Tyres leadership team takes pay cut due to coronavirus. *The Economic Times*. <https://economictimes.indiatimes.com/industry/auto/tyres/apollo-tyres-leadership-team-takes-pay-cut-due-to-coronavirus/articleshow/74727716.cms?from=mdr>
- Rezaee, Z. (2005). Causes, consequences, and deterrence of financial statement fraud. *Critical perspectives on Accounting*, 16(3), 277-298.
- Singhi, A., Mathur, R., Sanghi, K., & Dhir, M. (2021). Retail resurgence in India: leading in the new reality. *Boston Consulting Group and Retailers Association of India*. <https://web-assets.bcg.com/4d/fe/415839064c4b94a0a1364ce1a4c4/bcg-rai-report-retail-resurgence-in-india.pdf>
- Umarji, V. (2021, April 15). Aon survey projects 6% salary hike in 2021 for senior executives in India. *Business Standard*. [https://www.business-standard.com/article/management/aon-survey-projects-6-salary-hike-in-2021-for-senior-executives-in-india-121041400599\\_1.html](https://www.business-standard.com/article/management/aon-survey-projects-6-salary-hike-in-2021-for-senior-executives-in-india-121041400599_1.html)
- World Economic Forum. (2020). *Covid-19 risks outlook: a preliminary mapping and its implications*. [http://www3.weforum.org/docs/WEF\\_COVID\\_19\\_Risks\\_Outlook\\_Special\\_Edition\\_Pages.pdf](http://www3.weforum.org/docs/WEF_COVID_19_Risks_Outlook_Special_Edition_Pages.pdf)
- World Health Organisation. (2021, January 29). *Listings of WHO's response to Covid-19*. <https://www.who.int/news/item/29-06-2020-covidtimeline>
- Zomato. (2021). *Feeding India*. Retrieved August 1, 2021, from <https://www.feedingindia.org/>

\*\*\*\*\*