



## DIGITAL TRANSFORMATION - INDIAN STARTUP ECOSYSTEM AND BLOCKCHAIN PLATFORM FOR CROWD FUNDING



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### Introduction

Startups across the world have made and are continuing to make significant contributions for digital transformation of business entities across all industry sectors and government organisations. This has convincingly been established by many research scholars. India is no exception to this phenomenon. Startups help such entities by providing innovative applications

(Apps) and / solutions that are essential for frontend transaction processing, RPA, CRM with AR and VR, data analytics with AI and ML, information safety and security, storage, and retrieval management, etc. Certain startups help by manufacturing innovative products like IoTs, sensors, robots and drones, etc. that are essential for digital transformation.

During several personal interactions of the author many CIOs, CTOs and CDOs have acknowledged such help and support. According to them such collaborations with startups prove to be effective and efficient in terms speed, quality, and costs.

Modus operandi for such collaborations varies depending upon financial strength and stability of a Startup that has reached the stage of providing an adaptable solution in the framework of digital transformation strategy of an entity. In many cases there are mergers and acquisitions. Some deals are for outright purchase of the technology, product, solution and / or Application (App). In other cases fee-based deals are done with varying options for initial fixed fee, followed by recurring revenue earnings through royalty depending upon number of customers, or units sold and / or time based fixed payments. But before all these every startup passes through painful struggle for existence.

There are instances when corporate entities encourage young software programmers and designers by conducting hackathons. Hackathon is a portmanteau of the words hacker, indicating a clever programmer or designer, and marathon which is an event for testing endurance. In digital world hackathon also denotes a kind of social festival. It is a congregation of computer programmers where interested business entities challenge young computer programmers to improve upon or build innovative new software / Apps with rewards for success. Many small Startups in their formative stage also extends help through this route.

## Objective

It is an encouraging situation when India Inc is trying to fire all cylinders to transfigure Bharat (please read rural India) as the engine of growth. Anaximander, the great Greek philosopher “.....postulated about the development of life from non-life and the evolutionary descent of man from animal. Charles Darwin simply brought something new to the old philosophy -- a plausible mechanism called natural selection.” India is at the cusp of such a Darwinian moment for pervasive digital transformation, the follow of which is gaining accelerated pace. The present author is of the view that this DIGITAL RIVER, as he contemplates, will be able to progressively irrigate Bharat with financial inclusion for inclusive happiness. All efforts for accelerated GDP growth will further be navigated by this River. Startups collectively are emerging as one of the most important and effective driving force for this.

But it is still a sad story that none worry much about a Startup for its days of multifaceted battle when ‘Startupians’ struggle, burn their hard earned savings, bootstrap, and stake family jewellery while striving to innovate a solution, develop a software or designing and manufacturing a product. The primary objective of a ‘Startupian’ at this stage is more for self-actualisation of her / his dream than earn money.

Therefore, the single point objective of this paper is to understand the present status of Startups in India in terms of numbers, impact of Covid-19 Pandemic on them, and keeping that backdrop in view ideate a scheme and platform

for crowd funding.

## Startup Ecosystem in India

A dream is a dream! An idea is an idea. Not all dreams are ideas, and not all ideas are dreams. But an idea or a dream gives birth to a Startup. This process of startups emerging from thousands of dreams has now emerged as a large ecosystem in India. Most of the first-generation entrepreneurs here strive more for self-satisfaction by solving a problem for humanity than taking her / his startup entity as a vehicle for earning money.

According to a published article<sup>1</sup> definition of a Startup as per Government of India is “An entity less than seven years young with an annual turnover of less than 250 million rupees and headquartered in India. The Startup India initiative by the country’s Department of Industrial Policy and Promotion helps build a positive, effective ecosystem in the country, turning business ideas into a reality for a flourishing startup environment. States and union territories across the country introduced startup policies following the government’s initiative.”

Government of India in its own website ‘Startup India’<sup>2</sup> has mentioned that “India has the 3<sup>rd</sup> Largest startup ecosystem in the world; expected to witness YoY growth of a consistent annual growth of 12-15%. India has about 50,000 startup in India in 2018, around 8,900 - 9,300 of these are technology led startups. .... Startups in the country have been able to create an estimated 40,000 new jobs over the years, taking total jobs in the startup ecosystem to 1.6 to 1.7 lakh. .... Significantly, women entrepreneurs stood at 14% up from 10% and 11% over previous two years”

Exhibits - I and II indicates Industry wise and States and Union Territory wise numbers of Startups recognised by the Department of Promotion of Industry and Internal Trade in India (DPITI). There were 28,979 such recognised Startups in India as on March 1, 2020. These Startups cover about fifty businesses and other services segments. Readers will agree that these numbers will be more in thousands when unrecognised Startups are also taken into count.

Government of India under its ‘Atal Innovation Mission’<sup>3</sup> has taken several initiatives for facilitating development of successful Startups in many ways. One of such initiatives is setting up of fifty-nine Atal Incubation Centres across the country, the School of Business Management, Mumbai of NMIMS University hosts one such Centre. Besides many private organisations are also functioning as incubators and accelerators. These Centres also try to bring in startup investors for show-casing solutions developed by cohorts being incubated by them.

But funding of a startup at its formative stage continues to remain elusive and far too less than what is needed, and available in developed countries.

## Startup India Initiative for Startup Certification

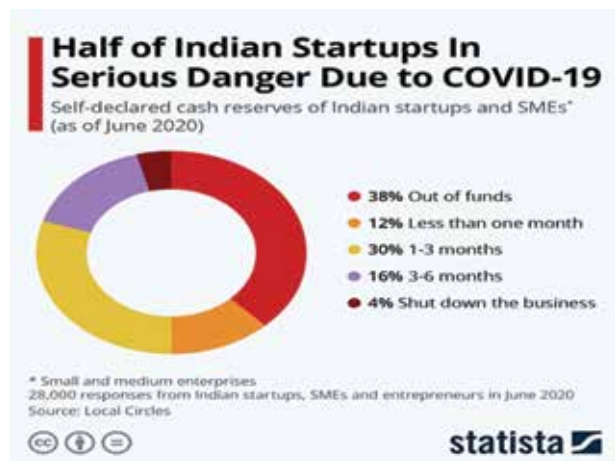
As a part of the Startup India initiative DPITI of GoI organised the virtual National Startup Award 2020 programme and announced the names of startups across

various categories and sectors. In that event an announcement was made about the “...launch of a startup discovery platform called ‘Startup India Showcase’ for recognising most promising startups in the country, along with the launch of the blockchain-based certification verification system, which will enable instant verification and access to certificates of recognition issued by the industry body.” Niti Aayog is working on such a certification platform in collaboration with Indian School of Business and Bitgram.<sup>4</sup> This initiative is a good step in the right direction but one needs to wait and watch how far it attracts investors and results into actual funding in reality.

## Impact of Covid-19 Pandemic

Entities across all industry sectors irrespective of their size and nature of business have severely been affected by Covid-19 Pandemic. Startups can most certainly not remain insulated from this. Almost all startups across the globe have badly been affected by the Pandemic. In a report published by Statista in June 2020 Katharina Bulchholz<sup>5</sup> narrated the following position of startups, small and medium enterprises in India. This report is based on 28,000 responses against a survey conducted by them.

Readers can read the following statistics provided by the author alongside the pie chart. It depicts that about 50% of the respondents are either out of funds or have less than a month’s equivalent cash requirement. 4% have closed shops. Only 46% have some breathable space between one to six months, out of which 30% are in immediate need of cash.



**Source:** <https://www.statista.com/chart/22027/startup-sme-financial-situation-india/>

Even if Covid-19 Pandemic as a negative factor and its impacts are set aside, most of the Indian startups were never comfortable with their liquidity position. As have been said in a previous section Startupians mostly put at stake their last penny from savings and family jewels. This is almost a worldwide phenomenon. They do not even leave any option to bootstrap till finding an Angel investor. Many of them collapse if time taken to establish proof of concept and / or developing the prototype take time longer than they planned. Indian money market event today does not provide

a structured framework for Startups to source funds from.

The following table indicates Startups funded by Fund of Funds under Startup India Programme based on the initiatives of Government of India.

Number of Startups Supported and Amount Invested under Fund of Funds for Start-ups (FFS) by Startup India Programme in India (As on 31.03.2018 to 28.02.2020)			
Particulars	31.03.2018	31.03.2019	28.02.2020
No. of Start-ups	120	218	320
Amount Invested in Start-ups (Rs. in Crore)	570	1,403	3,378

**Source:** [www.indiastat.com](http://www.indiastat.com)

Readers will appreciate that Rs. 5,351 Crore provided in about three years is by any count not sufficient for any meaningful development, stabilisation and growth of Startups in India and their impactful contributions to industries and governmental administration. A definite need had emerged long before Covid-19 Pandemic for making alternative arrangements for funding admittedly circa 50,000 Indian startups from the very embryonic stage till an Angel Investor or a VC steps in. For many startups even Angel investors may not agree to fund. Unfortunately, startups in general hardly has any tangible asset worth the name to be offered as a collateral for taking loans from banks.

Time is, therefore, here, and now for providing an effective alternative option(s) to startups for sourcing funds from. The present author feels that structured crowd funding platforms could be one such options.

## Crowd Funding for Startups

Readers may be aware that the history of crowd funding dates to 1885. Joseph Pulitzer, an American newspaper editor, arranged to collect funds for building the pedestal for the Statue of Liberty which was waiting for assembly and installation during the summer of 1885. It would be interesting to quote Rodrigo Davies<sup>6</sup>, of the MIT. He wrote that, “As the Statue of Liberty was shipped from France, efforts to raise funds for its pedestal stalled. But thanks to a newspaper campaign and the small donations of hundreds of residents, the base was eventually built.” One of the recent crowd funding news goes like this. “Rotterdam studio ZUS has completed what they describe as the “world’s first crowdfunded public infrastructure project” - a 400-metre-long pedestrian bridge in their home city (+ slideshow).”<sup>7</sup>

One of the options for such crowd funded initiative is that when the asset is built by money from the crowd, equity shares may be issued to the individuals comprising the crowd. The asset so built is thus collectively owned and administered by the governing body of the initiative. Charges are generally collected for use of such an asset built

by crowd funding. Profit earned are distributed as dividend and a person can divest her / his equity share if needed.

The author is of the strong view that in India several crowd funding platforms for funding startups can be floated by private technology firms like Tech Mahindra, L&T Technology, Infosys, etc. Blockchain would be the most effective technology for building and operating such a platform, as has already been tried and tested in many developed countries.

The author's interactions with many HNIs, young corporate executives and technology professionals lead to conclude that Indians are ready to allocate a small portion of their investible surplus for startups. They may not be ready to fund one Startup at the risk of total loss. But they are ready to allocate that to several startups in small portions. This can further be validated by extensive primary survey.

Moreover, there are high probabilities of corporate houses providing funds to startups through crowd funding platforms. Such funding are expected from those who are looking for Apps and / or solutions for digital transformation or tangible products like, IoTs, IoRTs, sensors, drones, robots and its spare parts, and / or unique wearable consumer electronics like a FitBit. There is no need to say, that such fund providers must be convinced, or perceive on their own that such products rare and expected to be in high demand because of uniqueness and value for money to users.

The following could be an illustrative list of options for crowd funding depending upon the nature of product / services and quantum of funds needed by a startup:

- ⊙ **Peer to Peer Funding for Equity** - These funds are expected to come from those young professionals and HNIs who are ready to allocate a small portion of their investible surplus to more than one startups. Their expectations would be that one or two such investment would be successful enabling them to exit with high return. The startup may retain the right to buy-back at a predefined rate of IRR over a pre-defined timeline.
- ⊙ **Business to Startup Lending for Reward** - These group of lenders would be those business entities which have interest in seeing success of the startup as a vendor of unique product and / or service that the entity would need. Such entities would be ready to provide loan in exchange of discounts on market price at a predetermined rate and a commitment that they will have the right of priority as preferred customers. Such loans can also progressively be settled in lieu of payment against supplies.
- ⊙ **Peer to Startup Lending for Reward** - This will be the group of fund providers who will join to provide funds when a startup would promise that such lenders would have right to receive the products at a pre-defined rate of discount, equated to agreed rate of interest, on the market price out of the first few batches of production
- ⊙ **Business to Startup Funding for Right of Distributorship** - Such a possibility of fund against

equity and / or as loan would be possible for those startups which would require domestic and / or distributors when they start mass production. If loan is provided, settlement can be done by equivalent values of free supplies at a discount equated with rate of interest. If the startup is still in need of working capital, the term could be XY% payment in cash and balance to be adjusted against loan. In case of equity the startup may retain the right to buy-back at a predefined rate of IRR over a pre-defined timeline.

- ⊙ **Person or Business to Startup Equity in Kind** - A startup as a business entity would need certain services like that of a mentor, lawyer, marketing agency, celebrity model, logistics, financial and accounting, etc. Such services can also be arranged against equity allotment in future for equivalent of the service cost at a pre-defined value per share.

Some more such funding options can be designed to suit business needs of both sides. A startup can simultaneously opt for more than one such option befitting its requirement.

## Blockchain Platform and Smart Contracts

The above schemes for crowd funding can be organised through a Blockchain technology-based platform. This will help ensuring all possible benefits of blockchain technology, which need not be overemphasised in this brief article. Smart contracts, drafted by eminent lawyers, can digitally be embedded into the platform with needful flexibility befitting the requirements for each scheme.

In cases of funding by equity, the same Blockchain Platform can be used for buying / selling and transfer of equity shares from one owner to the other. This technology will bring in credibility and transparency for the transactions, and directly provide feed for accounting of transactions in books of accounts and reporting thereof. Online auditing of such transactions would also be possible by statutory auditors of the participating individuals / organisations.

Strict processes can also be introduced for ensuring 'Know Your Participant' before anybody can propose and process any transaction. In this context the initiative of Niti Aayog for certification of startups through a Blockchain Platform will prove to be useful. The same platform can be used for the proposed KYP of investors also with interoperability ensured between the two Blockchain Platforms. Government can also administer various tax benefits to startups through such a Blockchain platforms.

## Recommendation for Regulation

Indian financial Regulators are known for their resilience and innovative measures while handling regulatory functions and as mentors for financial markets. The author is of the view that the aforesaid propositions for crowd funding should not be left as free for all and should be bought under strict semblance of regulation. This will provide confidence to investors in startups at its formative stage to the effect that:

- ⊙ All transactions will remain within the realms of law,

- ⊙ Transparency, equity, and justice will be ensured for all stakeholders,
- ⊙ The entire system will function under the watchful supervision of the Regulator, and
- ⊙ Dynamic regulatory provisions will be flexible and modified befitting the emerging need of business and startup ecosystem.

However, the Regulator will have to ensure that their prescribed regulations are implementable without much of cost to be incurred. A regulator like SEBI, who also regulates Alternate Investment Funds like VC and PE Funds, may step in. It can provide the needful guidance and regulations for

configuring Blockchain Platforms for crowd funding, and handling of transactions directly by the concerned parties without any intermediation.

## Conclusion

The author believes that all stakeholders of the startup ecosystem in India and for that matter any other country will find the above proposition for Crowd Funding implementable using a Blockchain Platform. It will be his privilege to participate in any such initiative by any private or public organisation. **MA**

## Exhibits

### Exhibit - I

Industry-wise Number of Startups Recognised by Department for Promotion of Industry and Internal Trade in India (16th January 2016 - 1st March 2020)	
Industry	No. of Recognised Startups
Advertising	282
Aeronautics/Aerospace and Defence	216
Agriculture	1,123
AI	694
Analytics	308
Animation	32
AR/VR (Augmented + Virtual Reality)	209
Architecture/Interior Design	155
Art and Photography	116
Automotive	454
Chemicals	136
Computer Vision	108
Construction	699
Dating/Matrimonial	27
Design	277
Education	2,031
Enterprise Software	782
Events	137
Fashion	328
Finance Technology	930
Food and Beverages	1,183
Green Technology	868
Healthcare and Lifesciences	2,425

### Exhibit - II

State-wise Number of Recognised Startups under Startup India Initiative of India (As on 01.03.2020)	
States / Union Territories	No. of Recognised Startups
Andaman and Nicobar Islands	12
Andhra Pradesh	478
Arunachal Pradesh	4
Assam	197
Bihar	374
Chandigarh	105
Chhattisgarh	377
Dadra and Nagar Haveli	6
Daman and Diu	3
Delhi	3740
Goa	113
Gujarat	1555
Haryana	1635
Himachal Pradesh	64
Jammu and Kashmir	108
Jharkhand	235
Karnataka	4206
Kerala	1292
Lakshadweep	1
Madhya Pradesh	815
Maharashtra	5477
Manipur	19
Meghalaya	9

House-hold Services	220
Human Resources	461
Internet of Things	758
IT Services	4,064
Marketing	629
Media and Entertainment	534
Nanotechnology	66
Non-renewable Energy	79
Other Specialty Retailers	189
Pets and Animals	72
Professional and Commercial Services	1,214
Real Estate	261
Renewable Energy	814
Retail	704
Robotics	210
Safety	80
Security Solutions	252
Social Impact	203
Social Network	283
Sports	158
Technology Hardware	867
Telecommunication and Networking	281
Textiles and Apparel	318
Transportation and Storage	561
Travel and Tourism	583
Others	1,598
<b>Total</b>	<b>28,979</b>

Mizoram	3
Nagaland	10
Odisha	520
Puducherry	30
Punjab	223
Rajasthan	823
Sikkim	3
Tamil Nadu	1509
Telangana	1609
Tripura	12
Uttar Pradesh	2342
Uttarakhand	231
West Bengal	839
<b>India</b>	<b>28,979</b>

Source : Lok Sabha Unstarred Question No. 2912, dated on 11.03.2020.

**Note:** The author acknowledges contribution of Rajashree Basu in writing this article.

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