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# ROLE OF DIGITAL CURRENCY AND BLOCK CHAIN TECHNOLOGY ON INDIAN ECONOMY WITH SPECIAL REFERENCE TO RBI AND GOVERNMENT RECENT REFORMS IN DIGITAL RUPEE

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**Abstract—** India has many in need of help. It has approximately 1.4 billion people, making it the second most populous country in the world. This makes it the world's second-largest country with a relatively low-density population. Unfortunately, it is second only to China in income disparity, where over 43 percent of the population makes below the national poverty line. The Center for Internet & Society at Stanford University notes that India's child sex ratio (1,006 females per 1,000 males) is the worst in the world; and, in 2008, the nation had a literacy rate of only 74 percent, which is also the lowest in the world. It also says that half the Indians are expected to live below the poverty line by 2020.

**Keywords—** Digital, Currency, RBI, Technology, Block Chain

## I. INTRODUCTION TO ROLE OF DIGITAL CURRENCY IN INDIA:

India has many in need of help. It has approximately 1.4 billion people, making it the second most populous country in the world. This makes it the world's second-largest country with a relatively low-density population. Unfortunately, it is second only to China in income disparity, where over 43 percent of the population makes below the national poverty line.

The Center for Internet & Society at Stanford University notes that India's child sex ratio (1,006 females per 1,000 males) is the worst in the world; and, in 2008, the nation had a literacy rate of only 74 percent, which is also the lowest in the world. It also says that half the Indians are expected to live below the poverty line by 2020.

All this together makes for a government that has some serious problems to contend with. The country is plagued with power outages, pollution, and illiteracy. These issues are a challenge for all governments, but they are particularly

worrisome for India, given that the population growth rate is estimated to be the world's highest.

The country is trying to tackle these problems. Since the late 1990s, the country has been implementing progressive regulations and educational programs. They have also been increasing investment in health care and infrastructure.

## II. THEORETICAL BACKGROUND AND RECENT DEVELOPMENTS:

Bitcoin is in the spotlight as India is beginning to see a lot of benefits of this digital currency, including increased funding for economic development. Earlier this year, the Indian government announced a new digital currency system that is expected to provide nationwide and free banking services, including the Bitcoin system. The currency is expected to be fully integrated into India's other national banking systems.

This is something that will make India a model for other nations to emulate. A prominent Indian economist, Dr. Suhas Daftuar, has stated that if this new system comes to fruition, it would change the nation's "global ranking from 130th to 23rd."

This system would be a brilliant solution to a big problem in the country. Despite some extremely useful measures taken to regulate the economy and improve the lives of citizens, there are still a large number of people who cannot get a bank account. This has been a major hurdle to economic development.

If the government fully embraces digital currency and implements an integrated banking system, these people will be able to utilize the service. The government's reasons for creating this new digital currency are to enhance financial inclusion, boost digital commerce, cut the dependence on cash, and to encourage usage of digital payments.



The Government of India has already been accepting digital currencies for several transactions, including payments to the soldiers. It has also started accepting digital payments to the farmers.

With such forward-thinking policies and initiatives, India has a bright future as a leader in the global digital economy. The rise of the digital currency is making a world of difference in the lives of millions of people there, and that is an example we should all learn from.

### III. DIGITAL RUPEE IN INDIA:

This Digital Rupee programme is designed as an alternative to the Government Securities that are issued to the citizens of India. At an interest rate of 14.24% the Government Securities are expensive but this scheme is probably affordable for the aspiring citizens. The security would be issued on the basis of a half month service of a fixed deposit. One can redeem their amount of Digital Rupee at any point of time against return on the full amount.

Digital Rupee can be used for paying household bills, extending EMI on your account, for credit card payments, EMI of your existing loan or car loan, online shopping and purchase of other utility services etc. The bond would be issued at par with the Indian Rupee and hence it can be easily exchanged for Indian Rupees at any time.

To apply for the newly launched 'Digital Rupee' Program, one needs to send an application with address, mobile number and a self-addressed envelope (an envelope being needed to get the message). The issuance of the bonds has been approved by the Financial Services Board of India, and the tokens of the scheme would be available for purchase on a limited basis. The book running of the sale would be conducted through multiple channels including the Financial Market, BSE, NSE and the DRP Trust Account.

If you are an Indian citizen, you need not be over the age of 18 and should be resident in India, with an established bank account, or a registered payment instrument issued by a registered payment instrument merchant. If you wish to know more about the 'Digital Rupee' Program, you can find the link to the web portal [www.digitalrupee.in](http://www.digitalrupee.in)

The Indian Rupee has grown slowly on the international forex market and reached its all-time high of 72.93 (Rs. 64.37) against US dollar in August 2008 and has been on a steady slide since then. The Indian Rupee would be more desirable to the investors with the guidance of the expert in the field.

Intex Technologies has initiated a unique initiative to give a great offering to the Indian citizens by enabling them with the 'Digital Rupee' program, which would be applicable for the entire country, including the metro cities of Delhi, Mumbai, Bangalore, Kolkata, Hyderabad, etc.

### IV. DIGITAL RUPEE:

The Indian Rupee (INR) has appreciated against the US Dollar (USD) during 2017, but the current stock of it is not sufficient

to finance the pending debts as in the year 2017-18, the total domestic as well as external debt obligations of the Government of India have exceeded Rs. 100,000 crores, as revealed by the Ministry of Finance of India.

An outstanding of Rs. 39,464 crores and Rs. 11,353 crores was due for the days ended on 15th March, 2018 and 30th September, 2018, respectively, as mentioned by the Ministry of Finance of India. It is the duty of the government to take all necessary measures to keep the economy afloat to fight the economic crises, but the current valuation of Rupee has shown up its weaknesses, when the current value of the USD is even more than that of other global currencies.

### V. INDIAN RUPEE AGAINST USD:

The US Dollar (USD) was overvalued against the Rupee on various occasions over the year 2008, 2013 and 2016. During 2018, the Indian Rupee weakened as compared to the US Dollar, which has been on a steady decline since January 2018.

The top 6 local and global factors for Rupee depreciation include

1. Currency rate fluctuations
2. Dollar strength
3. Trump's protectionism
4. Global trade war
5. EU-Turkey Deal
6. Demand for Indian Rupee in foreign countries

Up until 2011, a Rupee was issued in the form of a 'Swaralaka' (gold coin), so that the cash flows could be efficiently dealt with, by the Rupee holders in case of any disruptions in the flow of the currency. The government has launched the Rupee Re-Issuance Program and it is expected that it will help the Rupee to be invested into the efficient delivery system, which will bring in more transparency in the system.

The Indian Rupee may be back on its feet by the middle of 2018, with a strengthening Rupee against the US Dollar, global trade tensions between the US and its trading partners, appreciation of emerging markets currencies, and higher yields in US Treasuries. It is believed that there are a number of factors which may drive the Rupee to regain its lost worth and there is a large market available for the digital currencies, as there is a trend of a global migration towards the adoption of the decentralized currency and digitized assets, which are neither regulated nor controlled by any central bank.

### VI. USER-FRIENDLINESS & AN INNOVATIVE SOLUTION:

There is a need for a less-cost, safer and more transparent means of payment, which would allow the citizens of India to exchange their existing Rupees for higher worth and lower



exchange rates, without having to wait for days or weeks to get the currency exchanged. This has been the primary driving force for the companies and users of the digital currencies. There are many features that are prominent in the advancement of the digital currency industry, including:

1. Presently, one can trade INR with nearly 100 million-dollar worth of currencies, including INR against JPY, CAD, GBP, CAD against USD, EUR, AUD, SGD and many more, on a single exchange. The trade volumes of INR against these currencies are estimated to be nearly equivalent to the trade volume of INR against USD.
2. The trading of INR against the currencies, as mentioned earlier, is now almost same, with the average trade volume for the INR against the US Dollar and the GBP amounting to USD 1 billion, with the INR trading volume equal to US Dollar. The value of the Indian Rupee has witnessed the highest growth compared to all the other currencies, making the Indian Rupee one of the best performing currency.
3. The digital currency is open and free from transaction fees and charges, and there is no central bank or commercial bank involved in the settlement of the transactions. In this system, the bank does not function as an intermediary to convert the currency into the desired currency.
4. A digital currency, however, is limited in supply, just like a physical currency, and unlike a bank account, a digital currency is not restricted by any monetary policy.
5. A digital currency provides a platform where the value of the currency is intrinsically linked to the interest rates on the investment, or the maturity of a currency.
6. A user can open a digital currency account within the few minutes and can purchase digital currencies using the existing Indian Rupee account.
7. A user can deposit or withdraw a maximum of INR 30000 at one time in any single day using the current exchange rate.
8. However, all the crypto currencies have a real world use and the company acts as a medium for the conversion of the digital currency into an asset and also as a vehicle for trading it.

#### VII. NEW IMPROVEMENTS TO THE INDIAN RUPEE:

In recent years, the government of India has made some progressive decisions, which may lead to a highly effective and a large-scale transformation in the digital currency industry. These are:

1. India has made major changes in the taxation structure of digital currency. The Centre has come up with a tax policy on Bitcoin. The capital gains tax, including the short-term capital gains tax (STCG), will be levied at a flat rate of 10 per cent, while the STCG will be subject to a tax rate of 15 per cent (in the case of short-term capital gains).

2. The Government of India has proposed to make all trading in virtual currencies illegal.

#### VIII. ROLE OF BLOCK CHAIN IN DIGITAL RUPEE:

Since the internet age, there has been a revolution in the finance sector. Now, every player is becoming technologically savvy and looking to experiment with new technologies that bring in more efficiency and transparency to the business world.

The latest and much anticipated banking revolution is the emergence of the blockchain technology in the finance sector. This technology has been specifically used to store various types of assets such as securities, contracts, and agreements, as well as digital currencies.

A transaction through the blockchain requires several third-party participants to interact to record all transactions and handover the recorded information to the third parties. Each participant needs to agree to each other's transaction using cryptographic keys. A single owner is only allowed to create one copy of the data which enables the owner to identify the transactions. In case, one or more parties are involved in the transactions, the consensus algorithm requires each transaction to be broadcasted in a group. The block chain technology provides trust, transparency, and security in transactions, making it a suitable solution for the banking and financial sector.

#### IX. WHY A DIGITAL RUPEE IS BETTER THAN CASH:

The trust required for the exchange of digital currencies is a highly criticized factor in the crypto currency market. In 2016, the famous Bitcoin was thought to be used only by hackers and criminals. But after the arrest of the infamous Silk Road, the bit coins gained popularity. To improve this situation, the government is exploring more and more options to gain trust from the public. In February 2017, the government issued its first paper currency.

The concept of digital rupee would bring about a revolution in the Indian economy. But it's a long and exhausting journey to get rid of the dependence on cash. Several types of digital currency are currently being developed in the world, and they all face the same problem – they can't be used by common people. Governments and monetary regulators around the world are currently struggling to find ways to mainstream the digital currencies and make it useful to the common people.

#### X. CONCLUSION:

The economy of India is highly-diversified, with several sectors rapidly adopting the new technologies and digital currencies are also expected to gain popularity. The regulations and restrictions in the country may provide some hindrances in the growth of the industry in the near future. But, at the same time, the Indian Rupee is still the fifth most popular currency among the top 10 most used currencies in the world, which demonstrates that people in India still trust the



Indian Rupee, and is excited by the potential of digital currencies in the country. Therefore, in this rapidly changing world, investors should try to invest in only such safe and steady investments which are guaranteed to grow. The recent block chain technology, as well as the trust the government and banking authorities need to create a successful platform for digital currencies, will not be easy. But the Indian government is taking steps towards mainstreaming this innovative technology in the country. Before using digital currencies, the people must get trained to use the technology. Only then can the people use this digital currency to their benefit.

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