

T-Chits: Blockchain Implementation for Chit Funds
Case Study on Telangana State Chit Funds
Administration



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Overview

Telangana state was formed on June 2, 2014 after northwest part of Andhra Pradesh was separated. Located on the centre-south stretch of the Indian peninsula on the high Deccan Plateau, it is the twelfth largest state & the twelfth-most populated state in India. The state of Telangana is divided into 33 districts. It is bordered by the states of Maharashtra to the north, Chhattisgarh to the east, Karnataka to the west, and Andhra Pradesh to the east and south.

Chit funds are key instruments of financial inclusion for millions in India, especially for low budget investors who do not have access to formal institutions like banks and NBFCs. Chit fund is a very traditional and indigenous financial instrument helping subscribers to inculcate the habit of saving. India is home to millions of such subscribers who have been doing this for many decades now, but on the other hand chit fund system is also susceptible to fraud. With news reports claiming that between ₹1.2 to 1.4 lacs crores of public money is lost to various chit fund schemes. Upwards of 350 scams, impacting 15 crore families, across 17 states were identified which targeted primarily low budget investors by several chit fund companies.

It is understood that the root cause for these frauds is lack of adequate regulations in place and lack of highly effective and legally strong regulators whose role is to oversee the whole-system compliance and to protect the interests of individual, subscribers and organizers. Regulators have few human resources to administer and monitor the activities happening at mammoth scale, where more than ₹18,549.12 crores of savings of 10,08,300+ subscribers (mostly from lower income groups) are rotated per annum in Telangana alone. Approximately, one office handles about 2 lacs subscriber's data worth about ₹200 crores every month.

Therefore, it becomes very difficult to monitor the transactions, especially monthly reporting of each business unit, due to the sheer volume of data. With the involvement of multiple unknown parties (organizers, subscribers, regulators, banks, auditors and third-party systems), the issues of administration, trust and transparency are some bigger problems to be solved.

Context and Background

Access to financial services in India is dependent on many factors, especially for lower income groups with little access to formal institutions like Banks and NBFCs. Chit funds are key instruments of financial inclusion in India. They offer simple access to finance to

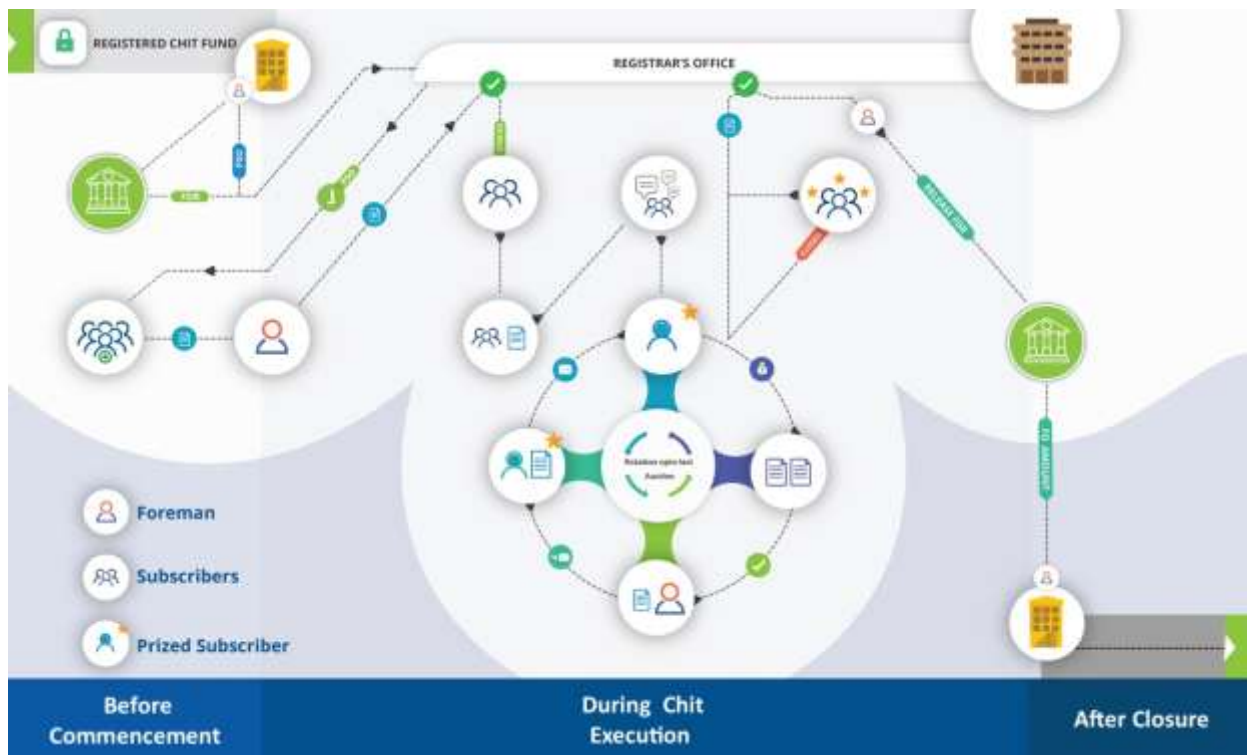
millions of people across India. Many low budget investors are however susceptible to misinformation and fraud causing them financial loss. According to media reports published around June 2019, up to ₹1,36,000 Crore of lifetime savings belonging to 150 million low income families were lost in 350 reported chit funds frauds in India.

Problem

The Chit Fund Act, 1982 protects the interest of the investors who are saving and borrowing from the chit funds by defining guidelines to foreman on the way of working of chit funds. This Act was formulated in the era when collecting money, underwriting and disbursing was all very tedious and has not seen adequate amendments as per the changing practices of chit funds market.

Chit Fund (Regulation and Administration) Act

The following steps are involved in conducting a registered Chit fund activity in any state across India.



A typical life cycle of chit fund covers three stages - before commencement of the chit group, during the chit group lifetime and closure of the group. The regulators play the role

of an intermediary through the entire life cycle. The complete process today requires the chit fund operators to submit all the compliance related documents manually and on paper.

The problem is many fold, in the absence of proper tools and a proper system in place, it is manually impossible for the regulator to make sure that the chit operators are complying with the Act. In the current system, the compliance is mainly in the form of declaration form, which is manually filled and submitted by the chit operators, making the system completely vulnerable and reactive in nature.

Primary areas of administration where it is very difficult for the state regulators to monitor the chit operations in India are:

1. Lack of consolidated view of the business done by the Chit Operators

Chit Fund Act states that chit fund companies cannot exceed their business worth 10 times their net owned funds. Since these companies operate through multiple branches (sometimes spread across the state), monitoring or verifying the consolidated turnover of the business is time consuming and inefficient. Also, understanding the widespread and multilevel business operations at the organization level is not possible in the current system which makes it even more complex.

2. Inefficient mechanism to monitor the monthly reporting

As per the prevalent Act, the filing of monthly minutes is mandatory for each chit group within a specified timeline. Along with the minutes, the chit fund company is also required to provide details about the previous pending payments to be given to prized subscriber (PS) in the form of vouchers. If in case, the money is not disbursed to the PS, then the said collected money needs to be deposited into a separate account and reported. This is where most of the mismanagement of collected funds happens. The money collected but not disbursed can be diverted by the chit fund operators for other activities which not only violates the law and rules framed thereunder but is also against the investors' interest. Regulators play a key role in monitoring of this activity.

In the current system, these transactions are very difficult to be monitored by the regulators given the sheer volume of business one regulator handles. For example, in Telangana one office handles about 2 lacs subscriber's data worth about ₹200 Crores of money every month. This means that the regulator is required to monitor previous months vouchers/pay slips on a cumulative basis, making it manually impossible for it to ensure adherence to the provisions of the Act.

As a result, the regulators are completely dependent on the declaration of the chit fund companies. In case of a fraud, the regulators are supposed to track the entire history of the group to understand the origin and occurrence of fraud. Because of the manual and humongous clerical work, this entire process is inefficient and time consuming.

3. Vulnerable record keeping and maintenance

As discussed in previous section about the traditional way of maintaining records, all the documents submitted by the chit fund companies are maintained in files group wise. As per the regulations prescribed in the Act, these files must be maintained for 8 years.



The above picture represents the record keeping activity at a well-organized ARC office. For any arbitration or dispute of money settlement, the regulators and the subscribers are dependent on these physical files only. Making inferences and sharing the files/documents in such a system is completely inefficient, vulnerable, time-taking and costly.

4. Reduction in access to actual credit needed by the subscribers

In a system completely driven by manual files and record keeping, service to subscribers is highly effected. Chit fund is an alternate financial tool both for small and medium enterprises and other blue-collared employees for whom it is the only lifeline to get money based on social guarantee. The credit to the subscribers is based on the money pooled from

the group. So, any disruption in timely disbursement by not adhering to the rules reduces the access to funds.

Considering the abovementioned issues, protecting the interests of the subscribers and easing the tasks of the regulators should be one of the top priorities for the Government. At the same time, it is very important that the systems in place are streamlined, fast, agile and transparent.

Solution

Chit fund as a financial instrument has many strengths and weaknesses, especially in operations. Foundational technologies like blockchain have been leveraged to address many challenges discussed above which has helped in reducing the information, interaction and innovation frictions (high fees, cash movements, reporting, auditing and potential fraud from the parties including foreman and subscribers).

Using blockchain these frictions have not only decreased but operational efficiency and trust in this financial product has also increased. It has also eliminated the traditional way of keeping and preserving records, streamlining transactions in multiple branches and processing of complaints. T-Chits has envisioned a transformative approach to this traditional industry not by just building the fundamentals of the system, but by paving the way towards building the credit identities of these subscribers who are otherwise left out from formal banking financial services.

Broad assumptions:

There are many variables which are factored in while building an inclusive blockchain solution, which is beyond the scope of the limitations and disadvantages discussed so far. Thus, for the sake of simplicity, the indicative model presented below would rest on many assumptions. Some of the important ones are highlighted below:

- The interactions between subscriber and the chit fund companies are not part of government purview
- Integration of the banking and other financial institutions with blockchain interface is being done to facilitate reconciliation, payments and settlements
- The model proposes that the following stakeholders be recognized as participants of the chit fund blockchain
 - Regulators (Government registrar)
 - Chit fund companies
 - Subscribers

- Banks
- Auditing entities
- Insurance providers (extended parties)
- Financial institutions (extended parties)
- Market places (extended parties)

Blockchain Implementation:

A blockchain based network of chit group registry along with the subscribers has created immutable transaction records by which credit profiles of these subscribers were built and made financially inclusive in the bigger scheme of things. Additionally, all the chit funds transactions routed through blockchain are integrated in a way that the consolidated value of all the transactions that have occurred through all the branches of a company, through all the channels, can be obtained at any point of time. This ensures that all the transactions across all the channels are recorded and accounted for.

This has not only increased the trust in the system but has also enabled innovation in this space. All the transactions incurred through the blockchain based network are recorded leaving footprints which works as audit trail. In such a system, risk of mismanagement of funds are mitigated which ultimately enhances users' trust in the chit fund market practices. Post digitalization of all the transactions, even in case of fraud, it is possible to trace the flow of money from starting to end.

Moreover, it is expected that new business models will emerge and drive the growth both for subscribers and companies. As smart contracts continue to evolve with more and more parties joining the consensus, it will achieve higher level of usability and trust. The platform will capture transactions, verify the data and will also work with third party systems like financial institutions to enable smart transactions and distribute private keys for clients – to allow an automated and trusted financial transaction between all the parties.

Blockchain implementation as described above has large potential to improve efficiency and ease of conducting chit transactions by creating a seamless platform/system for chit funds thus unlocking economic value and liquidity. The many benefits from this are:

- Protecting millions of subscribers by eliminating the financial fraud completely in the chit fund space
- Creating access to credit facilities for many subscribers and investors

T-Chits

- Underwriting time reduced from 30+ days to 3-4 days
- Introducing real-time audit
- Standardizing and automatically enforcing rules to regulate the chit fund market
- Bringing 100% discipline in the chit fund business activities
- Identifying the fraud patterns by the chit fund companies and subscribers both

Case Study of a potential (hypothetical) investor:

Scenario 1: Ravi, an accountant in a private company of Hyderabad always wanted to save money and invest in chit funds to earn high return on the invested money. But he feared the uncertainties of the chit fund market because of which millions have lost their investments in the market.

Problem: The chit fund market has a number of inherent limitations and shortcomings due to which many low budget investors have suffered financial losses. The reasons behind the same are many, for example, misinformation about companies and regulations, fraud committed by chit fund companies, diversion of funds, regulatory failures etc. Moreover, chit fund industry also has a traditional way of grievance redressal because of which investors often refrain from entering into the chit fund market.

Solution: T-Chits has roped in the foundational technologies like Blockchain to address many challenges of the chit fund market because of which investors in Telangana like Ravi were able to access and invest in chit fund market without the fear of losing money owing to misinformation and frauds.

With T-Chits in place, Ravi logged into the portal and created his profile. He found the list of 780+ registered chit fund companies on the portal. Ravi searched the profiles of the companies, their branches and selected an appropriate one based on his requirement (related to location, chit value and duration). He was able to see all the details about the company, its chit group, persons running the company with other relevant details and therefore was assured that all the chit fund companies listed in T-Chits were registered with the regulating authorities and were not fake or sham companies. Then he joined a chit group, he was able to verify the life cycle of that particular chit group and subscribed to different activities related to that chit group for getting critical updates. He was also able to verify on T-Chits that the company he wanted to invest with has already submitted the security deposit in the form of fixed deposit with the authorities against the chit group.

Finally, Ravi invested in one of the chit companies depending upon his choice and started investing monthly. Few months later when he needed money, he participated in the auction and bid for the money successfully. As per the Chit fund company requirements, he was supposed to provide the required surety for the money he is taking. Ravi took more time to get the sureties and was becoming restless about the money which he was supposed to receive from Chit Fund company.

He approached the regulators online, after one month, to check if the money was safe and not diverted. In T-Chits, the regulator has access to know if the chit fund company has

deposited the collected money in a separate account or not. Looking at the minutes filed by the company he was assured that money was safe in a separate account and not diverted for other activities.

Scenario 2: Ramesh, another customer in the same group who bid successfully and submitted all the sureties on time was not given the money even after stipulated time frame. He learnt from Ravi that he could actually raise a grievance in T-Chits online and bring it to the notice of relevant authorities.

Solution: Ramesh raised a complaint with the regulating authorities online and was able to interact with the concerned person directly. Moreover, he was also able to see the status and progress of the complaint and reach out to the concerned officer handling the case. On the other hand, the default was also alerted to the regulators through the minutes filed online by the company. In the traditional system where records were maintained manually and physically, keeping a track on the payment made by chit fund company to the subscriber was a tedious and difficult job. But T-Chits has made the procedure easy. The minutes of the chit group activities can be filed online and the same are made available to regulators for monitoring. The minutes capture and maintain the payment history of the subscribers in the group. The regulators also get the notifications for the payments pending to subscribers by the companies, on the basis of which appropriate actions are taken to safeguard the interests of the subscribers.

Through the advanced and integrated redressal mechanism implemented by T-chits, authorities were able to take swift action to close the payment by the chit fund company and Ramesh received the money fully within 3 days of raising the grievance.

Ramesh was assured by the fast and transparent action taken by the regulatory authorities which was visible to him on the T-Chits portal. Had it been the traditional way of chit fund regulators, the grievance redressal might have taken a very long time, resulting in investors losing their trust in the regulatory bodies.

T-Chits has advance and transparent grievance redressal mechanism which is helping subscribers like Ravi and Ramesh to approach the relevant officers online directly in a completely safe, secure and transparent way. The grievance raised is visible across the entire hierarchy. This implementation has helped many people in settling the chit fund money they had to receive from the chit fund companies prompting them to invest in the chit fund market and assuring them that their money will not be lost.

Way Forward

T-Chits has been implemented as a Private Permissioned Blockchain Network and benefits of blockchain network grow as network of nodes grows. Currently it is operating with 4 nodes which will be increased to bring the robustness in the system so that benefits of the block chain network can be reaped.

With digital signature service introduction in future, foremen can digitally sign the online applications and can get the online approvals without manually signing the papers and without visiting the ARC office. This would reduce the cost and increase the convenience of the users significantly.

Conclusions

T-Chits with its revolutionary way of building a platform for chit fund administration has broadly impacted the following parties at different levels.

Subscribers

- Chit funds are more accessible, credible and rewarding
- An inclusive financial services system which really helps subscribers
- Grievance redressal has become completely transparent

Regulators

- Chit funds compliances are monitored effectively and block-chained
- Violations are automatically raised and enforced by the system
- Monitoring of prize money disbursements have become easy

Foreman

- Audit and reporting compliances are managed easily
- Innovate on different business models driven by digitization
- Increased efficiency and operational benefits

Benefits observed by user department by implementing T-Chits:

The officials from the ARCs indicated that the system is helping them to monitor the entire process efficiently as indicated below:

- Monitoring of chit fund companies' compliances has become easy
- Minutes filing and monitoring of monthly reporting has been automated by the system
- Voucher details and separate account details compliance is automated by the system

- Violations raised by the system are very useful. Doing away the need of manual monitoring of violations has saved many man-hours of work
- All ARC offices have become cashless and the payments are handled only online
- All the legacy data migration is done making the entire chit fund reporting activities digital. There is no offline activity in any ARC office post digitization
- Verification and document management of the details submitted by the foreman have become easy
- Various health parameters in the chit businesses can be monitored now in real time and proactive steps are taken to mitigate future risks
- Standardization across the board because of automated rule engine
- Imposing fines are automated, hence the compliances have also increased

Teaching Notes

Learning Objectives

- ◆ As-is situation analysis and identification of pain points in the existing regulatory structure of chit funds and their resolution
- ◆ Importance of innovation and technology to bring transparency and proper accountability
- ◆ Learning notes on The Chit Fund Act, 1982 (The Act)

The Chit Fund Act, 1982 prescribes the chit fund administration rules which clearly mention to protect the interest of both foreman/chit fund companies & subscribers who are participating in the savings and borrowings activities conducted by the foreman.

The Act also defines the roles of chit fund companies, regulators and the rights of subscribers. Though the Act was introduced by Central Government, State Government bodies are responsible for its implementation.

The objective of this exercise is to highlight the challenges the regulator faces in administering the business and how does a chit fund company deal with the regulatory compliance.

Suggested Questions & Analysis

- What are the key points which must be kept in mind while replicating the T-Chits model in other states?

- To take up the number of grievances the subscribers face in the chit fund businesses, what are the top three key features/ application solutions that you can highlight to a common man?

Group Discussion

Divide the participants in 4-5 groups and discuss the case on following aspects. Each group should take one aspect:

- Discuss the impact of having no proper forum for grievance redressal for chit fund subscribers in light of the problems described in the problem section of the case
- What should be the next step taken by the project to expand the overall reach and accessibility?
- Organise open brainstorming session regarding how this project can be evolved in other states and what additional features may be added? Each group should present their findings in a short 5-10 minutes presentation afterwards.

Role Play Activity

Make three groups of participants. The first group will represent the chit fund subscribers who are looking to invest only in approved and registered chit fund companies and the second group will represent a chit fund company who is trying to run the chit fund activities in the state in a regulatory way. Finally, the third team which will be T-Chits team will help in sharing the information reported by chit fund company to the subscribers and vice-versa. Let these three groups enact the issues as highlighted in the case study.

The objective of this exercise is to highlight expectations of stakeholders and the readiness of government in meeting them. It is a role play type of exercise which offers plenty of flexibility in such a way by which services can be further augmented.

Summary

Key lessons learnt (15 minutes). Each participant shall write down a summary in not more than 500 words highlighting key learnings from the case.

Abbreviations

Abbreviation	Full Form
ARC	Assistant Registrar of Chits
FDR	Fixed Deposit Receipt
₹	Indian Rupees
NBFCs	Non-Banking Financial services Company
NPS	Non-Prized Subscriber
PS	Prized Subscriber