

# BLOCKCHAIN SOLUTION FOR THIRD PARTY ADMINISTRATOR PROCESS IN HEALTH INSURANCE MEDICAL CLAIMS

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## ABSTRACT

India has a vast population of 1.3 Billion people out of which approximately 44% have a health insurance policy <sup>1</sup>. In the FY 2017-18 alone, there were approximately 4.7 million Indians who claimed mediclaim insurance for hospitalization done which included both pre-planned as well as emergency visits to the hospital <sup>2</sup>. Each of these claims took around 4-6 hours of processing and follow-up time costing hugely to the claimants <sup>3</sup>. The objective of this paper is to evaluate the reduction in Turn Around Time (TAT) and thereby reduce costs in terms of man-hours saved by effective use of Blockchain for the purpose of settling claims. Since Blockchain is a new revolutionary development in the field of online real-time processing of data, there have been very few to Nil studies in this area. Secondary data has been collected from various sources (please check References) and analyzed for effective resolution. The evaluation shows that shifting to a Blockchain based platform for processing medical claims will go a long way in reducing TAT thereby

saving both time and cost for the average claimant. Applications: Smart contracts can be applied to automatically indemnify claimants when conditions in the policy are met thereby reducing human intervention in majority of the cases. Conclusion: Blockchain based claim processing platform can ensure that most of the claims are processed on a real time basis.

**Keywords:** Third Party Administrators, Blockchain, Mediclaim.

## INTRODUCTIONS

The world at large has seen huge transformations in terms of faster processing and settlements of insurance claims. In India itself, the claims owing to hospitalization which earlier used to take several days to get processed, now get settled within a few hours. While there has been a drastic improvement in claims settlement as compared to earlier times yet in this day and age, we need faster, real-time settlements coupled with fraud prevention at each step.

Third Party Administrators or TPAs as we call them have been instrumental in processing claims,

acting as the middle ground for both Claimants and Insurance companies. TPA is an agency holding license from the Insurance Regulatory Development Authority to process claims raised by Insurance Claimants post hospitalization. TPAs currently has a team of people which processes the claims on the basis of scanned documents sent to them by the hospital on the day of discharge of the patient. This entire processing is currently being done manually thereby taking several hours in the process. It is important to calculate the financial cost of waiting time of these patients as well as their family members. Sometimes the process takes so long that the patient has to wait in the hospital lobby to get discharged which becomes embarrassing for the whole family, the financial cost of which cannot be ascertained.

## MATERIAL AND METHODS

This is a recommendatory research based on a study of current & recommended process.

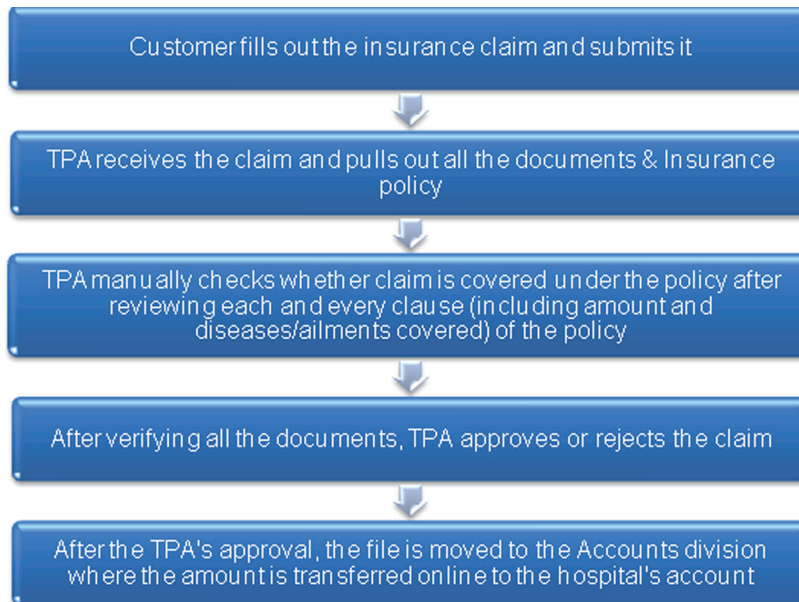
The Turn Around Time of both the processes have been taken into consideration along with an evaluation of the costs involved as well as time saved.

The costs involved have been calculated taking into consideration the per capita income of India detailing it further down to hourly earnings. This has then been multiplied with the average number of hours which will be saved by using Blockchain.

The number of claims admitted by TPA for the year Financial Year 2017-18 have been taken from the Annual Report of Insurance Regulatory And Development Authority of India (IRDAI) <sup>2</sup>.

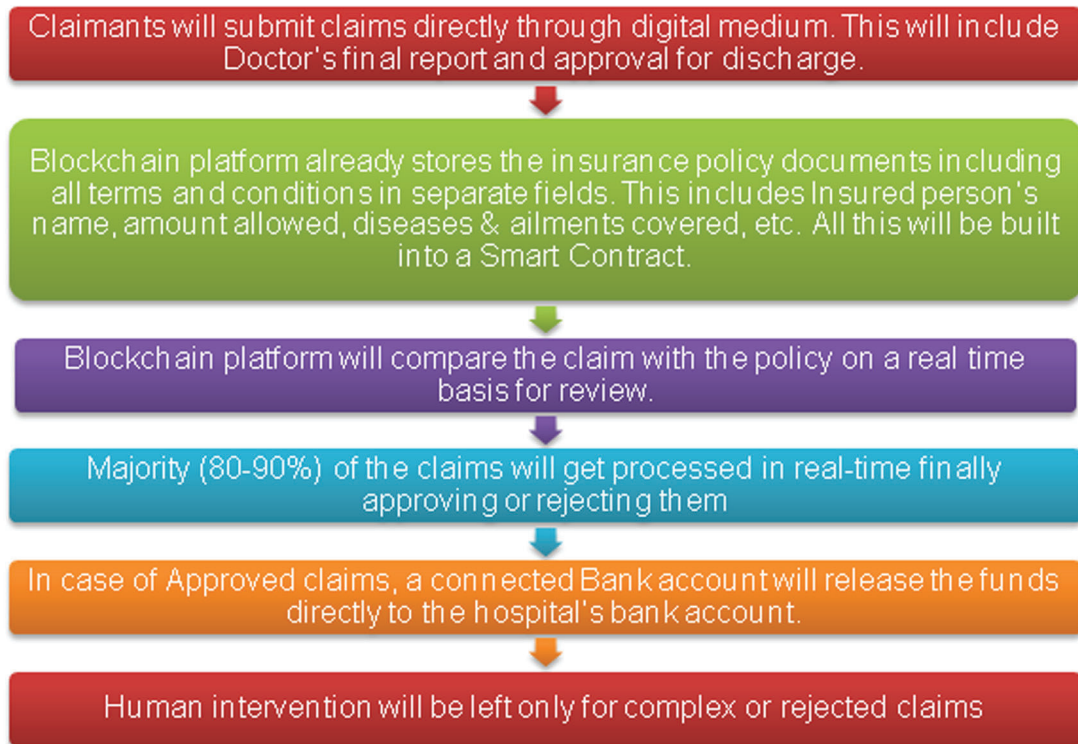
## RESULTS AND DISCUSSION

Flow chart 1 shows the current process being followed to claim insurance post hospitalization. As it can be noticed, the process is largely manual with the TPA comparing and verifying each and every policy detail and then taking a call on approval or rejection.



Entire process takes 2 to 8 hours

Flow chart 2 shows how Blockchain can reduce the turnaround time of several hours to a few minutes by real time comparison of claims with the policy with the help of smart contracts thereby saving both time and money in the process.



Entire Process will take 1 to 5 minutes

## CONCLUSIONS

In today's era of information and connectivity, it becomes imperative that policy holders are safeguarded on two important aspects:

1. Loss of valuable time in waiting for the claim approval
2. Safeguard on any false or duplicate claims

Blockchain, being a decentralized, transparent & immutable ledger gives Insurance companies the opportunity to win the confidence of claimants and save their precious time in getting discharged from the hospital. It also safeguards the policy holders as well as the insurance companies from any kind of duplication or false claims by providing an individual code known as Hash to each transaction. On the financial front, Block Chain will help make annual savings to the tune of INR 90 crores. The calculation of annual savings is as follows:

Per Capita Income of India: INR 142,719 <sup>4</sup>

Working Hours per annum: 300 (Working Days) \* 8 (Hours per day) = 2,400

Per Capita Income per hour: 142,719/2,400 = INR 59.47

Average number of hours saved per Claim through Block Chain: 4

Savings per Claim: 59.47 \* 4 = INR 237.88

Number of Claims admitted with Insurance companies through TPA in entire year: 47,47,370

Total Annual Savings (80% Claims): 47,47,370 \* 237.88 \* .80= INR 90 crores (approx.)

### Insurance Companies all over the world embraces Blockchain-

| S.NO | Company                               | Suggestion   | Reference   |
|------|---------------------------------------|--|---|
| 1    | Forbes                                | Article on global insurance companies moving towards Blockchain                                    | <a href="https://www.forbes.com/sites/michaeldelcastillo/2018/07/03/big-blockchain-the-50-largest-public-companies-exploring-blockchain/#1bfb83b32b5b">https://www.forbes.com/sites/michaeldelcastillo/2018/07/03/big-blockchain-the-50-largest-public-companies-exploring-blockchain/#1bfb83b32b5b</a>   |
| 2    | AIA Group, Hong Kong                  | Blockchain supported platform will provide faster service with increased security and transparency | <a href="https://www.aia.com.hk/en/about-aia/media-centre/press-releases/2017/aia-press-release-20171114.html">https://www.aia.com.hk/en/about-aia/media-centre/press-releases/2017/aia-press-release-20171114.html</a>   |
| 3    | Allianz Global Corporate & Speciality | Faster processing and removal of intermediaries  | <a href="https://www.forbes.com/sites/tomgroenfeldt/2017/11/14/allianz-prototypes-blockchain-for-global-self-insurance-client/#bba122c78e63">https://www.forbes.com/sites/tomgroenfeldt/2017/11/14/allianz-prototypes-blockchain-for-global-self-insurance-client/#bba122c78e63</a>   |
| 4    | People's Insurance Company of China   | Data integrity, enhanced data management and efficient data processing                             | <a href="https://www.prnewswire.com/news-releases/peoples-insurance-company-of-china-picc-one-of-the-largest-insurers-globally-with-126-billion-total-assets-is-opting-to-embrace-blockchain-technology-with-the-help-of-dnv-gl-and-vechain-300705596.html">https://www.prnewswire.com/news-releases/peoples-insurance-company-of-china-picc-one-of-the-largest-insurers-globally-with-126-billion-total-assets-is-opting-to-embrace-blockchain-technology-with-the-help-of-dnv-gl-and-vechain-300705596.html</a> |
| 5    | www.medium.com                        | Top Funded Blockchain Insurance projects   | <a href="https://medium.com/blockdata/15-blockchain-projects-tackling-the-insurance-industry-1806fa1adcc3">https://medium.com/blockdata/15-blockchain-projects-tackling-the-insurance-industry-1806fa1adcc3</a>   |

### CONFLICT OF INTEREST

This study is an exploratory research based upon secondary data therefore conflict of interest is hard to find out. But since Blockchain is a new revolutionary concept, its application can be extended to other socio-economic variables as well. At the moment there were hardly any applications in use involving this concept.

**SOURCE OF FUNDING** – Not required.

## **ETHICAL CLEARANCE**

As secondary data has been used for the research, available on public domain, therefore ethical clearance is not required. However references required for the data have been mentioned in the study.

## **References**

1. Sanghvi D. 56% Indians still don't have a health cover [Internet]. <https://www.livemint.com>. 2018 [cited 10 December 2019]. Available from: <https://www.livemint.com/Money/YopMGGZH7w65WTTxgPLoSK/56-Indians-still-dont-have-a-health-cover.html>
2. Insurance Regulatory and Development Authority of India. Annual Report 2017 -18. Insurance Regulatory and Development Authority of India; 2018.
3. Bhaskaran D. A '1-hour-claim-approval' doesn't mean quick 'settlement' [Internet]. <https://www.livemint.com>. 2013 [cited 12 December 2019]. Available from: <https://www.livemint.com/Money/VagPW2NDed5dUA59D6BKLJ/A-1hourclaimapproval-doesnt-mean-quick-settlement.html>
4. GDP per capita of India | India GDP per capita 2019 - StatisticsTimes.com [Internet]. [Statisticstimes.com](http://www.statisticstimes.com). [cited 10 December 2019]. Available from: <http://www.statisticstimes.com/economy/gdp-capita-of-india.php>
5. 15 blockchain projects tackling the insurance industry [Internet]. Medium. 2019 [cited 12 December 2019]. Available from: <https://medium.com/blockdata/15-blockchain-projects-tackling-the-insurance-industry-1806fa1adcc3>
6. Chamria R. What Is All The Fuss About Blockchain [Internet]. Institute of Chartered Accountants of India; [cited 11 December 2019]. Available from: <https://resource.cdn.icaai.org/48683daab32666a.pdf>
7. Tan D, Chan K. Aia Announces Hong Kong's First Blockchain-Enabled Bancassurance Network [Internet]. [www.aia.com.hk](http://www.aia.com.hk). 2017 [cited 12 December 2019]. Available from: <https://www.aia.com.hk/en/about-aia/media-centre/press-releases/2017/aia-press-release-20171114.html>
8. Castillo M. Big Blockchain: The 50 Largest Public Companies Exploring Blockchain [Internet]. [Forbes.com](http://www.forbes.com). 2018 [cited 12 December 2019]. Available from: <https://www.forbes.com/sites/michaeldelcastillo/2018/07/03/big-blockchain-the-50-largest-public-companies-exploring-blockchain/#1bfb83b32b5b>
9. Groenfeldt T. Allianz Prototypes Blockchain For Global Self-Insurance Client [Internet]. [www.forbes.com](http://www.forbes.com). 2017 [cited 11 December 2019]. Available from: <https://www.forbes.com/sites/tomgroenfeldt/2017/11/14/allianz-prototypes-blockchain-for-global-self-insurance-client/#bba122c78e63>
10. People's Insurance Company of China (PICC), one of the largest insurers globally with \$126 billion total assets is opting to embrace blockchain technology with the help of DNV GL and VeChain [Internet]. [Prnewswire.com](http://www.prnewswire.com). 2018 [cited 12 December 2019]. Available from: <https://www.prnewswire.com/news-releases/peoples-insurance-company-of-china-picc-one-of-the-largest-insurers-globally-with-126-billion-total-assets-is-opting-to-embrace-blockchain-technology-with-the-help-of-dnv-gl-and-vechain-300705596.html>