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## A MATHEMATICAL APPROACH OF THE PEOPLE'S OPINION ON THE IMPLEMENTATION OF AADHAR AS THE MANDATORY IDENTITY IN INDIA

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### ABSTRACT

*As everyone knows that today in Indian subcontinent the Aadhar has become a defacto debate in every household. Aadhar is an unique identification number coupled with the biometric data of the citizen of India. Though the idea was conceived few years ago in the previous government, the actual implementation is taking place right now. Irrespective of the public opinion and the Supreme court judgment, the current government has gone ahead and started implementing this as a compulsory for all the citizens of India. This research is a statistical study on the status of the public opinion in India and corresponding correlation method is applied to get the final result. It has been found a low degree positive correlation amongst the data which can be attributed to a not a healthy outcome as on date. This was done through a formal survey based on a questionnaire conducted and the data was collected from students and faculty of 3 colleges in Bangalore. Data analysis was done using Spearman rank correlation method. Also, this data can be further used to identify the people's perception and opinion in other parts of India The outcome of this research can serve as a reference for any agency for further research.*

## **KEY WORDS**

Aadhar, Government, Public, People, Opinion, Implementation, , Correlation, Identity, Security, Private, Rights, Performance, Ranks, Students & Spearman.

## **INTRODUCTION**

Quite for some time several nations are trying to implement and finding way to provide an unique identification numbers and certificates to their citizens for various reasons. Some of the reasons to authenticate the nationality, citizenship, money transaction scrutiny, cyber security, avoid terrorist activities, impalement government subsidies, employment data, voters data, population consensus, etc. India is not far behind in jumping into this bandwagon and decide to implement this. As a result, the “Aadhar” took birth in the previous government with a special department by name UIDAI in the year 2009. The initial goal set up was to introduce this amongst citizens of India to implement the government subsidies to reach to the benefeciaires directly. This would save lot of money and effort for government authorities and ultimately the economically backward section will benefit from this. However the current government took Aadhar to the next level.

The government made it a mandatory for all the citizens of India. Though they did not explicitly told this but it implies from the actions the authorities imposing on the citizens. This include compulsory of furnishing from the Aadhar details for keeping and obtaining any bank accounts, IT returns filing, Insurance claims, Stocks & Mutual fund transactions, Passport applications, obtaining and keeping Mobile numbers from the Telecom operators etc. In fact this has become the norm in each and every day to do operations & transactions in the day to do life including School admissions, employment verifications, student credentials, medical insurance, vehicle purchases, large value transactions, gold buying, property sale and purchase etc. This has caused lot of resistance from the public and even a PIL is filed in the supreme court against the compulsory implementation of Aadhar.

There is a lot of debate going on about the security of the personal data. Since lot o private operators involved in collection and analysis of the data there is a concern in the general public about the secrecy and citizen's rights. Apart from the public perception, the facilities implemented by the central & state governments to collect and issue the Aadhar Ids is really a nightmare. Everyday we find too lengthy lines in front of the issuing agencies and offices. This difficulty has crated a place for the agents to cash on by providing illegal services. On the whole still a lot of collection and issue of Aadhar Ids to be generated and without this hurrying up the government policy imposing is causing public distress.

Here an attempt is made to gather the public pulse and apply mathematical methods to analyse the situation.

### **PARAMETERS / QUESTIONNAIRES CONSIDERED FOR THE SURVEY**

Though there are many parameters can be considered, for this research study mainly 12 pointers listed which at this point of time are the right choices. The twelve pointers are:

Is it required at all, Personal data is secured, Benefits Income tax, Beating the passport blues, Ease Bank account opening & transactions, Get pension money on time, It will be Digital life certificate, Ease PPF disbursement, Will help Government subsidies, Will help Voting, Uplifts the financial empowerment. Will sustain longer.

Here an attempt is made to find the correlation between the Public perception on Agree & Disagree based on these common parameters. The evaluation of the parameters is done by the public themselves through a detailed questioner and suitable ranking are assigned for mathematical calculations.

### **SCOPE OF THE STUDY**

The Scope of the study is to identify whether any statistical correlation exists between the public perception and government implementation based on these common parameters. Also to list out the areas where an immediate intervention required by the government for improving the Public perception which directly helps the government for Aadhar implementation.

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## **SAMPLING DESIGN & DATA COLLECTION**

The data is collected through questionnaire method. The questionnaire list contains well listed 12 pointers relating to the People's general feeling perceived and experienced by the Staff, & students of three colleges. The survey is done separately on 100 people from 3 colleges in Bangalore, Karnataka, India.

## **TECHNIQUES APPLIED FOR THE STUDY**

Commonly used techniques for examining the relationship between two quantitative variables are Correlation and Linear regression. Correlation quantifies the strength of the linear relation between a pair of variable where as regression expresses the relationship in the form of an equation. The Spearman's Rank Correlation Coefficient is used to discover the strength of a link between two sets of data and measures the direction of association between two ranked variables. In this case the two sets of data are from the people's agreement and disagreements evaluation by the respective people.

## **LIMITATIONS & FURTHER SCOPE OF THE STUDY**

1. The study is limited to three colleges in Bangalore. Karnataka, India, Further it can be extended to collect more data & survey from other parts of Karnataka.
2. The study & survey can be further enhanced by collecting more data.
3. Also the study can be extended to different states in India.

## **DATA ANALYSIS & CALACULATIONS**

### **Table 1.1**

#### **Ratings assigned to the AGREE to the Government initiative**

<b>Ratings</b>	<b>Score</b>	<b>Ranks</b>
Poor	0 - 1	1
Fair	1 - 2	2
Good	2 - 3	3
Very good	3 - 4	4
Excellent	4 - 5	5

**Table 1.2****Ratings assigned to the DISAGREE to the Government initiative**

Ratings	Marks	Ranks
Poor	0 - 1	1
Fair	1 - 2	2
Good	2 - 3	3
Very good	3 - 4	4
Excellent	4 - 5	5

**Table 1.3****Calculation table for Square deviation**

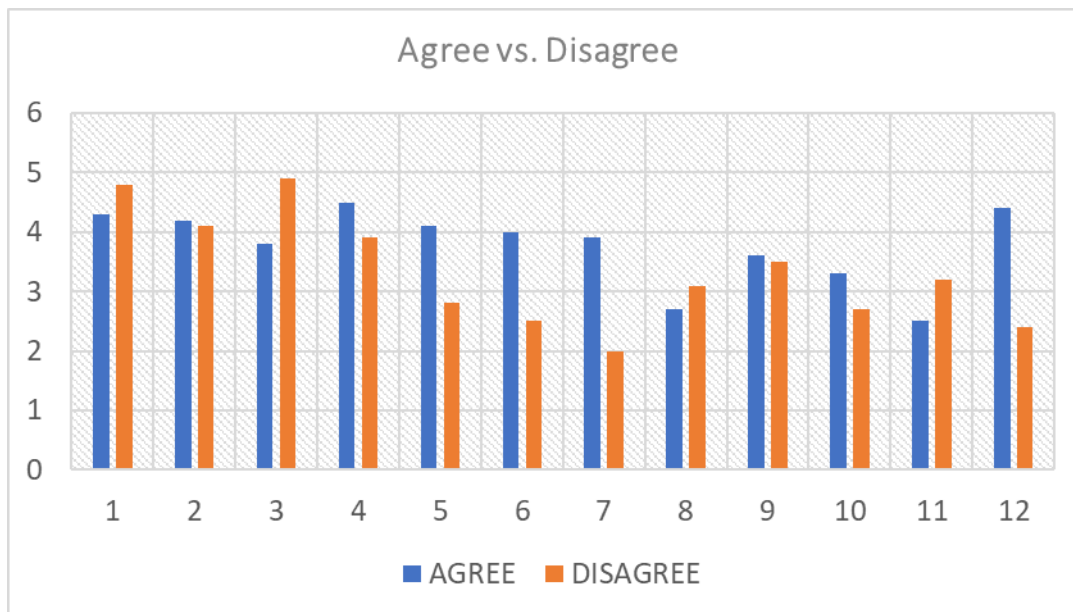
Sl.no.	Parameters	AGREE	DISAGREE	Agree Ranking R1	DisAgree Ranking R2	Deviation d=R1-R2	Square deviation d <sup>2</sup>
1	Is it required at all	4.3	4.8	3	2	1	1
2	Personal data is secured	4.2	4.1	4	3	1	1
3	Benefits Income tax	3.8	4.9	8	1	7	49
4	Beating the passport blues	4.5	3.9	1	4	-3	9
5	Ease Bank account opening & transactions	4.1	2.8	5	8	-3	9
6	Get pension money on time	4	2.5	6	10	-4	16
7	It will be a Digital life certificate	3.9	2	7	12	-5	25
8	Ease PPF disbursement	2.7	3.1	11	7	4	16
9	Will help Government subsidies	3.6	3.5	9	5	4	16
10	Will help Voting	3.3	2.7	10	9	1	1
11	Uplifts the financial empowerment	2.5	3.2	12	6	6	36
12	Will sustain longer	4.4	2.4	2	11	-9	81
<b>Total</b>							260

### Calculation based on Spearman rank correlation

$$r = 1 - \frac{6\sum d_i^2}{n(n^2 - 1)}$$
$$r = 1 - \frac{6(260)}{12(12 \times 12 - 1)}$$
$$r = 1 - \frac{1560}{12 \times 143}$$
$$r = 1 - 0.9090$$
$$r = 0.09091$$

**Comment** -- Low degree positive correlation

### GRAPHICAL REPRESENTATION OF THE DATA



## CONCLUSION

From the above survey and the correlation method we observed a positive low degree correlation. This shows that there exist people perception that abrupt implementation of Aadhar is not a proper one. The low degree conveys that it may be a good decision to implement but the method of implementing is not in right direction. However, it may get into a high degree positive correlation which shows that the implementation is the right one if the data is collected from only the pro government initiative supporting people. Since the data is at random the indication is considered as the significant one. Perhaps weighing the pros and cons of the Aadhar implementation by the public may still takes time. Once again a random data can be collected at different places and can be analysed once gain to cross verify the results. With the current scenario the outcome would be similar, and we need to wait for some more time.

## REFERENCES

1. Quantitative Techniques for managers – Sridhara Bhatt, Himalaya Publications.
  2. Statistical Methods – SP Gupta, S Chand publication
  3. Quantitative Analysis for Business decisions – B G Bhaskara & others
  4. Fundamentals of Mathematical Statistics – S C Gupta & V K Kapoor
  5. Quantitative techniques for managers – A C Jayashankar
  6. Quantitative Methods for Business –II – C M Chikkodi & B G Satyaprasad, Himalaya Publications.
  7. Stastical Metods and their Applications-1 – M Hajmeeral, M Ravithammal, Laxmi publications.
  8. Spearman's Rank-Order Correlation referred in <https://statistics.laerd.com/statistical-guides/spearman's-rank-order-correlation-statistical-guide.php>
  9. Rank correlation coefficient referred in [https://en.wikipedia.org/wiki/Spearman%27s\\_rank\\_correlation\\_coefficient](https://en.wikipedia.org/wiki/Spearman%27s_rank_correlation_coefficient)
-

10. Rank correlation coefficient referred in <http://www.wikihow.com/Calculate-Spearman's-Rank-Correlation-Coefficient>
  11. Spearman's Rank-Order Correlation referred in <http://www.real-statistics.com/correlation/spearmans-rank-correlation/>
  12. Correlation referred in <http://mathbits.com/MathBits/TISection/Statistics2/correlation.htmNine>
- 
13. Nine issue of Aadhar referred in <http://www.thehindu.com/news/national/nine-issues-to-debate-on-aadhaar-bill/article8341611.ece#!>
  14. Aadhar debate referred in <https://scroll.in/article/805415/aadhaar-debate-why-you-should-care-about-privacy-even-if-you-have-absolutely-nothing-to-hide>
  15. Privacy & security problems referred in <https://scroll.in/article/832595/privacy-security-and-egality-are-not-the-only-serious-problems-with-aadhaar-here-are-four-more>
  16. Privacy debate on Aadhaar referred in [https://www.telegraphindia.com/1131127/jsp/nation/story\\_17616903.jsp](https://www.telegraphindia.com/1131127/jsp/nation/story_17616903.jsp)
  17. History of Aadhar referred in <https://aadharcard.in/aadhar-histroy>



## AUTHOR'S PROFILE



Mrs Naga Padmini Rayana is a Mathematics Lecturer in New Horizon College, Bangalore, India. She possesses a Master's Degrees in Mathematics from Andhra University, Visakhapatnam and M.Phil from Madurai Kamaraj University. Before her role in New Horizon, R N Padmini was the head of department of Mathematics at Sambram PU College, Bangalore and worked as a lecturer at KBN Degree & PG College, Vijayawada and MSRS Siddhartha Degree & PG College, Visakhapatnam. Also, she ran a Mathematics coaching centre for over 8 years.