Aadhaar :- A Digital Financial Revolution

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Abstract

2009 marks the beginning of Digital Financial Revolution in India. A storm of revolution which put forth India on the path of financial inclusion,12 digit unique identity number, known as Aadhaar was launched by the Government of India in the year 2009 with a purpose of providing single unique identity information (biometric and demographic).These cards are issued by the Unique Identification Authority Of India (UDAI).The main aim of this paper is to identify the growth and trends in Aadhaar cards, degree of implementation of Aadhaar in Direct Benefit Transfer(DBT) scheme and privacy concerns associated with it along with the probable solutions to improve/solve the awareness level and privacy concerns w.r.t aadhaar. The paper will help the various academicians and policy makers in understanding the growth and the root problems associated with Aadhaar.

Keywords – Aadhaar, UDAI, Direct Benefit Transfer, Privacy concerns.

Introduction

Aadhar meaning 'foundation' in Hindi, is one of the major initiatives that was taken by the Government of India as a unique identification number. It is a 12 digit unique identity number which is issued by Indian government to every individual resident of India. The data relating to Aadhaar

enrollments, trends is collected by UDAI, a statutory body established in 2009 by the government of India. Aadhaar is a world's largest and most sophisticated system in the world. It should be noted that aadhaar is not a proof of citizenship and does not grant any right to domicile in India. With the help of Aadhaar number one can easily have access to various useful services like cooking gas connections, banking, etc. The main purpose of this card is to make India free from the fake and duplicitous identities. The benefits offered by Aadhaar are manifold like it helps in proving identity during train travel, one can easily get to know Aadhaar card details online, etc. Government linked Aadhaar to various schemes and services. But on the other hand there are lots of privacy concerns with regard to Aadhaar cards. A lot of confusion and controversies are there with regard to such linkages like whether it will be mandatory in the coming year and will serve as proof for citizenship. Yet future is unpredictable but the growing emphasis on Aadhaar enrollment by the government shows that Aadhaar would become more vital and "spread to all spheres of life".

Review of Literature

(Bhojak, 2015) suggested that extent of knowledge with regard to Aadhaar card information is very less among the people. Now Aadhaar is often used by the government for the disbursement of subsidy as a part of various welfare schemes but many people showed the lack of knowledge. As a result they cannot take benefit of the subsidies and other schemes provided by the government.(Panikkal, Thacker, &Balani, 2011) highlighted various benefits and risk associated with Unique Identification. On the similar lines (Goswami, Rout, & De, 2012) pointed out the problems w.r.t Aadhaar card as it is issued on the basis of other proofs of identity,thus degrades its utility.instead of focussing on purely identification purpose, aadhhar is now use for various direct benefit tranfer schemes and hence it deviates from its core objectives.aadhaar simply act an an unnecessary intermediary highlighting vaguesness with regard to clarity of purpose.(Pinch & Joriya, 2018) also pointed out the problems faced by the masses in linking their aadhaar card to public services.According to them, students,old age,women finds a tough task in linking aadhaar card.It's the education and technology improvement which can help in solving this problem.Proving demographic data is a most difficult task in Aadhaar cards.(Shweta Banerjee, 2016) highlighted aadhaar role in financial inclusion. Usage of unique identification by banks, government institution has helped in increasing the coverage, easy eKYC , reduced absentiesm(biometric attendence) and reduced cost of disbursement. Researcher has raised concern and suggested that better connectivity, improved network, proper incentivisation and greater protection (privacy policy) can help in

achieving its full potential. (National Institute Of Publc Finance And Policy, 2012) tested the feasibility of aadhaar by running a cost benefit analysis.Linking aadhaar to various direct benefit scheme of government researcher has covered various scheme and showed benefit of reduced cost, decrease in leakage and compared it with the cost of implementing the aadhaar at ground level. Researcher concluded that it yields positive rate of return of 52.85 percent to the government (Parul Aggarwal, 2014) identified the crucial role of Aadhaar card as one of the technology based means of Financial Inclusion in India. Aadhaarenabled bank account shall not only facilitate direct reciept of benefit under various schemes but will also serve as identity for accessing other financial services. (State of Aadhaar Report, 2016-2017) underline the usage of only Aadhaar number for conducting banking transaction as well as for dispersal of various benefits directly. Strengthened Aadhaar system can improve it's coverage and prevent exclusion.

The study literature highlighted a research gap. Very few papers have been written in the past highlighting the growing trend of aadhaar and its degree of implementation.

Objectives

- ➤ To identify the growing trend of Aadhaar among the masses.
- ➤ To explore the age and gender wise Aadhaar enrolments
- ➤ To explore the implementation of Aadhaar in Direct Benefit Transfer Scheme.
- ➤ To evaluate the implementation of Aadhaar enabled payment system and Biometric attendance system.
- ➤ To identify the progress of Aadhaar enabled Ration card linking.
- ➤ To identify the privacy concerns in Aadhaar card and to identify the probable solutions for encouraging greater acceptability and adaptability of Aadhaar.

**Data Collection And Research Methodology**

The secondary sources are used for the current research. Different books, journals, newspapers and relevant websites have been consulted in order to make the study effective one. The study attempts to examine the growing trend, popularity and privacy issues with regard to Aadhaar.

Growing Trend of Aadhaar
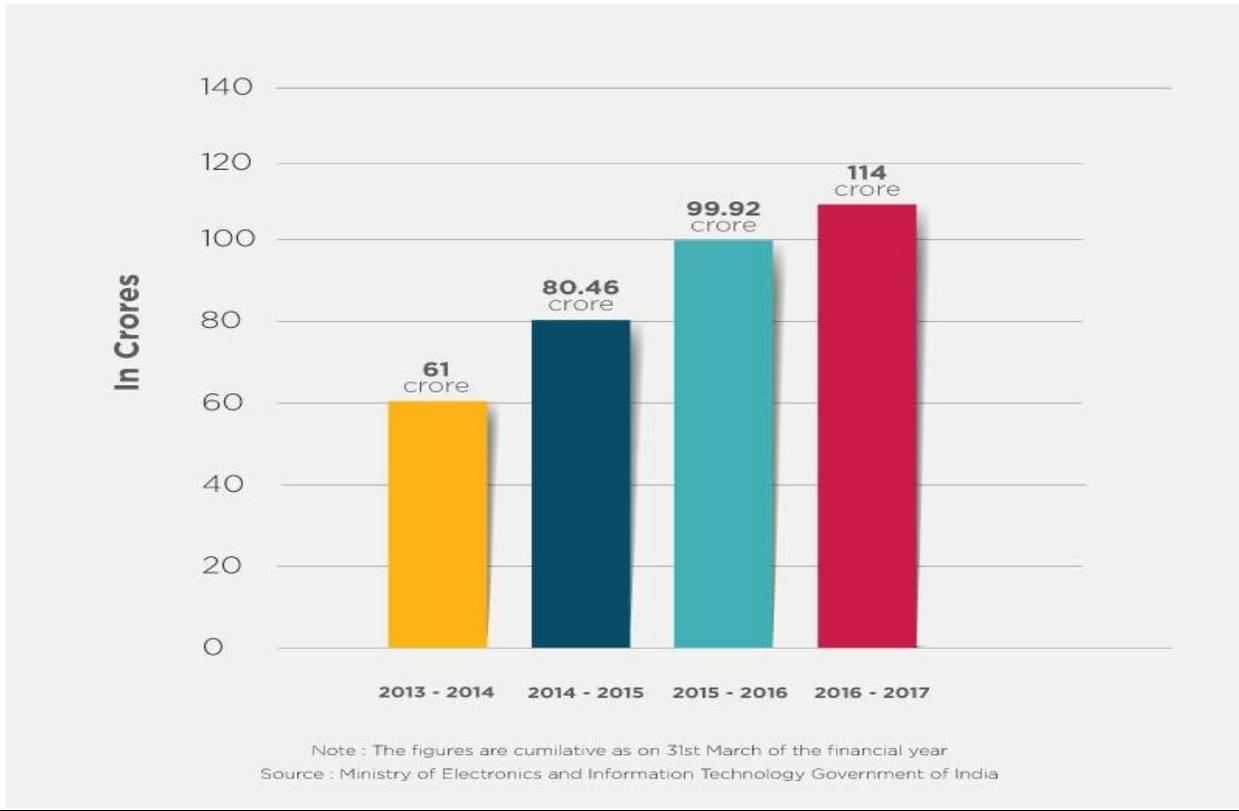
The graph shows the growing trend of Aadhaar among the masses. Around 114 crore of people now is having a Aadhaar card. Since most of the people now gets enrolled in Aadhaar, the old so called film plot wherein a person lost his/her siblings in Kumbh mela does not makes any sense. Now majority of people have at least one identity proof. That's government is trying to deliver more and more digital payment, subsidiesand other services via Aadhaar card. Pradhan Mantri Jan Dhan Yojana (PMJDY), MGNREGS, Pensions, Scholarships, DBTL, UAN (EPFO), PDS, Passports, Attendance system in government offices, etc. are some of the important steps which help a lot in increasing the Aadhaar enrollment from 60 crore in 2013 to 114 crore in 2017.As a result of all this measure Aadhaar hit a billion in April 2016

Age Group & Gender-wise Aadhaar Enrolments
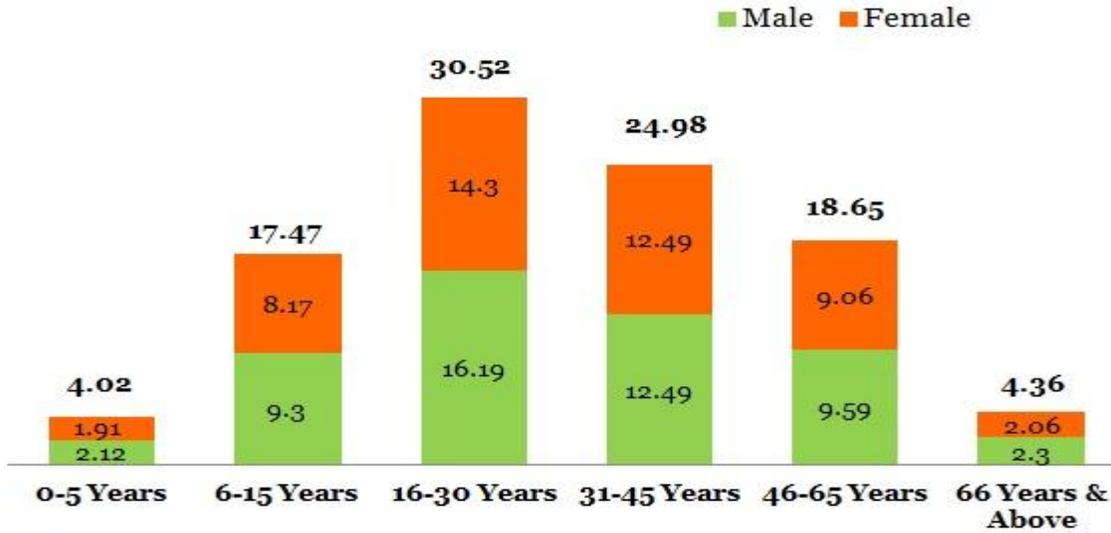
Figures in %
Source: UIDAI

The above graph shows the Age group and gender wise Aadhaar enrolments. Aadhaar enrolments are at its peak in the age group of 16-30 years which includes 16.19% male and 14.3% female. It shows the growing popularity and awareness among the younger group with respect to Aadhaar enrolments. In order to increase the enrolment of Aadhaar, UIDAI has recently introduced a Bal Aadhaar card which is a blue colored card given to the children below 5 years of age. No biometric details are needed to get a blue Aadhaar card. The graph also highlights a downward trend after the age group of 16-30 years. The reason for this could be that many people don't know when exactly they were born because at that time there was no properand compulsory registration of child birth. Children's births are registered today but the same was not there around 40 years before. That's why Aadhaar enrollments are very low in old age group.

State wise Aadhaar Enrollments

S.No	State Name	Total Population (Projected 2018)	Numbers of Aadhaar assigned (2018 LIVE)	Saturation % 2018 (LIVE)
1	Delhi	18,345,784	21531434	117.4%
2	Goa*	1,542,750	1567301	101.6%
3	Himachal Pradesh*	7,316,708	7425239	101.5%
4	Punjab*	29,611,935	29945350	101.1%
5	Kerala	35,330,888	35638768	100.9%
6	Haryana*	27,857,649	28069805	100.8%
7	Chandigarh*	1,126,705	1133546	100.6%
8	Telangana	38,472,769	38524101	100.1%
9	Uttarakhand	11,090,425	10867141	98.0%
10	Lakshadweep	71,218	69313	97.3%
11	Dadra & Nagar Haveli	378,979	365753	96.5%
12	Daman & Diu*	220,084	210668	95.7%
13	Gujarat*	63,907,200	60530824	94.7%
14	A & N Islands	419,978	392511	93.5%
15	Puducherry	1,375,592	1283829	93.3%
16	West Bengal	97,694,960	91063895	93.2%
17	Chhattisgarh	28,566,990	26522995	92.8%
18	Tamil Nadu	76,481,545	70965132	92.8%
19	Maharashtra	120,837,347	111716016	92.5%
20	Odisha	45,429,399	41988695	92.4%
21	Jharkhand	37,329,128	34358249	92.0%
22	Karnataka	66,165,886	60891164	92.0%
23	Andhra Pradesh*	52,883,163	48480288	91.7%
24	Madhya Pradesh	82,342,793	73235504	88.9%
25	Tripura	4,057,847	3605420	88.9%
26	Sikkim	671,720	584575	87.0%
27	Uttar Pradesh*	228,959,599	198357744	86.6%
28	Rajasthan	78,230,816	66817430	85.4%
29	Mizoram	1,205,974	1013202	84.0%
30	Bihar	119,461,013	99168089	83.0%
31	Manipur	3,008,546	2418491	80.4%
32	Arunachal Pradesh	1,528,296	1176946	77.0%
33	Jammu Kashmir	13,635,010	9969264	73.1%
34	Nagaland	2,189,297	1231207	56.2%
35	Meghalaya	3,276,323	761292	23.2%
36	Assam	34,586,234	2934671	8.5%
TOTAL		1,335,610,549	1184815852	88.7%

The table shows the state wise Aadhaar enrollment. As per the UIDAI data, now most of the people have got their Aadhaar IDs. There is now 100% Aadhaar saturation in nine major states and union territories. National Capital topped in the list with 117.4% Aadhaar saturation followed by Goa and Himachal Pradesh. Aadhaar saturation is very low in north eastern states especially in Assam because of illegal Bangladeshi migrants in the state. Since Aadhaar serves as an identity card for Indian citizen thus government does not wants the migrants to take advantage of this situation

Aadhaar Enabled Direct Benefit Transfer (DBT)

On January 1, 2013 Government of India adopted a digital mechanism of transferring subsidies to the beneficiary's bank account which are linked to Aadhaar card. The main objective was to avoid leakages as funds are directly credited in the beneficiary's bank account. Aadhaar greatly helped in the proper implementation of this scheme as it helps the government to identify the identity of beneficiaries from his Aadhaar details. Aadhaar enabled DBT helps the government to identify the target beneficiary. The government is also widening the scope of DBT covering various schemes like PAHAL scheme, MGNREGS,scholarships, etc. As per the recent data, Government has saved around 65,000 crore through DBT.

Aadhaar Enabled Payment system(AePS)

In order to promote digital transactions among the people, Government of India came up with Aadhaar Enabled Payment System. It is one of key initiative by the Government in order to speed up the pace of financial inclusion. It allows a person to make financial transactions from the bank account with the help of your biometric authentication. It has become a fast and secure method and is much easier to promote digital payments in rural areas.

2012-13	0.2
2013-14	11.15
2014-15	16.37
2015-16	95.04
2016-17	344.84

Source: NPCI

The above table shows that online financial inclusion using Aadhaar authentications grew 3.6 times in the past year. Immediately after the demonetization phase, government of India took various measures to promote digital transactions and AePS was one such initiative.

Aadhaar Enabled Biometric Attendance System(AEBAS)

It is a biometric attendance system which is based upon Aadhaar authentication. It is a system designed for the government organization to record and traces the attendance of employees so as to improve employee's productivity.

Aadhaar Seeding progress

Aadhaar seeding progress with active savings accounts (in crore)

Government on June 1,2018 amended the Prevention Of Money Laundering Act and makes it mandatory for the bank holders to link their bank account to Aadhaar number. As per the data provided by UIDAI, more than 50% of saving accounts have already been linked to Aadhaar. Banks have also initiated various campaigns in order to encourage their clients to link their account to Aadhaar as soon as possible. As per the orders, all accounts which will not be linked to Aadhaar will get deactivated after December 31, 2018. This is in contravention to the Aadhaar Act,2016 government must provide its various welfare schemes, services to people on producing other valid identity proofs.

Aadhaar enabled ration card linking/ public distribution system

Among multiple objectives, one of the ambitious objectives behind introduction of aadhaarwas isto fill up the existing leakages in PDS system. The public distribution system has had suffered from various inefficiencies thus denying the poor from their rightful entitlement.

The public distribution system was launched in 1944 with the aim of providing subsidized food and non food items to the people falling below poverty line. It mainly operates through a network of fair price shops (FPS) as a point of distribution of ration. The earlier mechanism was simply based on distribution of physical ration cards to the targeted beneficiaries. The system itself had inherited problem on the face of the built in structure and loose governance norms. Consistently various

concern were raised like low quality food, corruption, stock piling etc, resulting in no real gain to targeted beneficiaries. Thus, despite of incurring huge expenditure it was like adding drop to the ocean.

Digitization of ration cards and linking ration card toaadhaar card is one of the major cost saving initiatives.This has been implemented under the scheme of department of Food and Public distribution called "End-to-end Computerization of Targeted Public Distribution System (TPDS) Operations". It is aimed at digitization of ration cards and other data bases. India achieved its 100 percent (99.9%) target of digitization by February 2016. Digitization of ration card serve two purpose first easy access to the service and prompt information, secondlycost savings by the government on account of digital record maintenance.

Linking of aadhaar with the ration card aimed at closing the gap that exists between targeted beneficiaries and actual number of beneficiaries availing the service. 81.75 % of ration card are seeded with ration card till now. Aadhaar unique identity linkage with ration card itself generates unique identity of the person. Thus aadhaar seeded ration card does not only enable removal of fake entries from the database but its unique biometric authentication prevent non genuine person from availing the subsidized food. As disclosed by ACA report,Government complete digitization and aadhaar seeding has led to removal of 2.75 crore duplicate and fake ration cards since 2013Ministry has released the list of top 5 states with highest number of fake entries detected. These include UP, west Bengal, Karnataka, Maharashtra and Telangana This has enabled not only reduction in cost but also has helped household in providing a sense of security that no other person can avail their benefit.This in turn tune up the leakage to around Rs.17,500 crore annually.

Aadhaar enabled ration card has solved the problem of undue benefit taken by masses on one hand but biometric identification on the other hand itself is being alleged for acting as a constraint in availing the service. Recently several cases of deaths have been reported that were caused due to aadhaar related factor. These include failed aadhaar based biometric authentication, failure to represent at ration card due to ill health and cancellation of ration card due to its non linkage to aadhaar card. Although **Supreme Court** gave it verdict that no one shall be denied of the service due to non linkage of aadhaar butaadhaar based inclusion has somehow led to exclusion of targeted beneficiaries from the benefits guaranteed. The most prominent issue withaadhaar related factor necessitates the need to look up for alternative technology solutions like offline authentication,

annual verification, alternate identity/ nominee person. In addition creating it more secure and spreading awareness about its usage can help in solving aadhaar related issues

Government apart from focusing on aadhaarimplementation should a focus on broad picture and large scale inefficiencies which still retard the system. Any scheme works on three arms planning, implementation and control. The implementation is at its speed but controlling and proper governance is also required. The fair price shops mechanism whether are actually delivering what they are obliged to or not is a questionable thing. India ranks on global hunger index 2018 on 100th rank out of 118 so the question is whether we have actually solved the problem by just eliminating the fake beneficiaries. Thus the government should take steps to ensure proper regulation and governance of the system.

Other areas are a matter to look upon.In India, though the aadhaar enabled ration card has many benefits to count uponIlluminating the fact, Indiawitnessed 72 percent to 82 percent increase in PDS beneficiaries across all states.

Privacy Concerns in Aadhaar

Every citizen has a fundamental right to live life with dignity, having least state interference. Hence, individual privacy must be protected.Justice Chandrachud and three other judges, said "privacy safeguards an individual's autonomy and recognizes the ability of the individual to control vital aspects of life."

Recently, many instances have been witnessed wherein privacy has emerged as an intensified issue, raising concerns over invasion of privacy, data security and minimal data protection laws. In January 2018, Uttar Pradesh cops traced more than 10,000 phone calls to trace down only 2 men who dumped potatoes to protest in the high security area. It highlights the surveillance issue. As per a report by tribune, aadhaar card details of billions of people can be accessed at the cost of just 500 rupees in 10 minutes, by getting access to the single database gateway. By shedding another 300 rupees , it can get even printed. Furthermore, around 210 government websites displayed the private information including aadhaar numbers of beneficiaries. Adding to the line, in April 2018, Andhra Pradesh government displayed private information of 1.34 lakh citizen including their address, mobile number, ration card number, occupation , caste, religion and aadhaar number along with bank details

Beside this, there exists question on the very existence of right to privacy. Initially government argued in Supreme Court that it's not a fundamental right. In June 2017, supreme court overruled previous judgments and granted right to privacy as a fundamental right with certain restrictions , implying no law should invade an individual privacy . "In the context of Article 21, an invasion of privacy must be justified on the basis of a law which stipulates a procedure which is fair, just and reasonable. The law must also be valid with reference to the encroachment on life and personal liberty under Article 21," the judges said.Privacyambient in itself is debatable. "Privacy is a constitutionally protected right which emerges primarily from the guarantee of life and personal liberty in Article 21 of the Constitution. Elements of privacy also arise in varying contexts from the other facets of freedom and dignity recognized and guaranteed by the fundamental rights contained in Part III," the bench said.

Aadhaar consists of basically demographic and biometric data (fingerprints and iris scan). Doubt consistently persists over how such kind of information, being readily available, can be a threat for the general public. In reality, this information suffices and poses sufficient risk of identity theft, surveillance and a series of financial fraud. The possibilities are numerous. Some of them can be –

- ➢ Online and offline impersonification- In case of online verification, often aadhaar card is being required without biometrics, one can easily impersonate a person, having the demographic details.Kiran Jonnlagadda, Co-Founder of HasGeek said "impersonification is almost ridiculously easy because the aadhaar card is just a color printout with no security features, can be faked by almost anyone"

  Anybody can call up a bank manager, aadhaar details would be sufficient to match with the questions (done as a verification step).hence, convincing bank manager. Furthermore, fraudsters can use it for conducting unauthorized transactions.

- ➢ Voter manipulation- voter manipulation can be done easily, given the aadhaar details, on the basis of caste, religion for targeted propaganda. on the same lines, Cambridge analytical through facebook likes, propagated in US elections.

- ➢ Financial fraud (SIM)- Aadhaar card has also been linked to SIM card. For this, biometric verification is done. One case could be, wherein your fingerprints are asked by the agent twice (saying first time machine didn't record, but recorded twice). Resultant, issuance of 2 SIMs in name of a single person, one for original purpose and second one may be sold to any

terrorist or suspected person. On identifying any suspicious activity, an innocent person will be troubled by government, invading his/ her privacy (phone tapping, raid etc.)

In December 2017, Airtel retailers, conducting Aadhar linked SIM verification, without consent opened Airtel payments bank account, linked to receive LPG subsidy and deposited 167 crore.

Co-Founder of HasGeek said "somebody can apply for a SIM card with your Aadhaar number, and if the place that is issuing the SIM card didn't do a biometric verification then your card is good enough, because now they can do anything they want in your name. Impersonification is almost ridiculously easy because the aadhaar card is just a color printout with no security features, can be faked by almost anyone"

➢ Identity theft (biometric) –Recently Hindustan Times reported, 200 students of the Institute of Chemical Technology in Mumbai replicated their fingerprints to fudge their biometric attendance. Biometrics can be easily stolen (all you need is a cello tape) and copied. Hence getting access to all those services and information linked with your aadhaar.

Additionally, biometrics are subject to change with time.

➢ Laundering of money- Some government websites are not encrypted or properly secured. Such websites can be easily hacked and exploited to transfer illegal amounts into the account of beneficiaries.
➢ Mean of Surveillance - Phone tapping and raid
➢ Threat of using it against citizens by government- Government can deactivate any person's aadhaar card on ground of reasons fair to them, hence halting transaction on their bank account, subsidies, SIM etc as all are linked to just a single paper called Aadhaar.

 Aadhaar card as a means of authentication is mistakenly considered to be same as other modes of authentication (eg. Driving license which also contains basic information of an citizen), but among these Aadhaar is the most sensitive data, hence alarming breach of privacy issues are present in case of aadhaar for 2 main reasons. First, as it serves multiple uses. it is a single gateway to avail many services and hence linked to various departments. A huge block of data can be hacked from various places.

Secondly, among the various authentication documents like ration card, driving license, passport etc . if any 1 among them is hacked, it will not affect much a person's daily transaction, his bank account,

his life. But if aadhaar is hacked, it will affect a person's life significantly as it's been linked to various accounts, beneficiaries schemes. Contrastingly, In US, social security number is used for the sole purpose of distribution of benefit.

As far as the risk is concerned the aadhaar seems to be compromise on that part. Although the biometric authentication itself is being marketed as full proof system to tackle the fraud, but it seems unlikely, since what one need to transact is to punch in the biometric to complete the transaction. There is no double stage authentication or one should say there must be authentication as well as authorization. There is difference between the two, while authentication implies I am the person…. On the other hand authorization means that I want the transaction to take place on my account. So, the biometric authentication only works at the authentication level wherein anyone who could generate the print can transact and the transaction is done whether that person is authorize or not is not sure. The print that is saved at the established authority matches it each time the person transacts with the fresh print. This doesn't imply that other modes of payment are fully secure but once the fraud has been identified the instrument can be revokes but such option is not available in case of aadhaar. Thus the secured system itself poses a risk and certainly need to be made fraud proof

Conclusion

This paper highlighted the increasing Aadhaar enrollments in India which is much higher in the age group of 18-30 years. The Aadhaar saturation is highest in Delhi. The paper also helped to understand the growth of Aadhaar enabled various service schemes, pros and cons of Aadhaar enabled ration system and the privacy concerns associated with Aadhaar. That day is very near when Aadhaar would become the basis of almost everything. A petition which was filed against Aadhaar mandating in Supreme Court is yet to decide its fate in 2018. If apex court will allow the mandatory Aadhaar linkages to various schemes then such ruling will encourage the government to adopt Aadhaar for various other purposes and will the government to realize its ambitious project of Digital India more rapidly. Many experts says that 'Aadhaar trend will continue to increase in the coming years as it is a digital identity that makes verification of users much faster and easier.

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