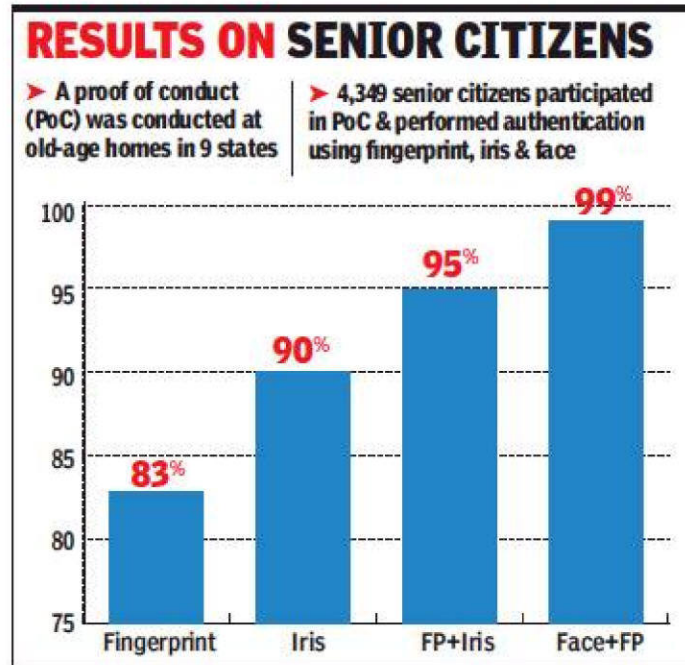# Facial identification makes Aadhaar biometrics for elderly nearly foolproof

Mahendra Kumar Singh & Rajeev Deshpande | TNN

New Delhi: The introduction of facial identification along with use of fingerprints promises to substantially address complaints of failed bio-metrics in Aadhaar authentication with a study of elder persons showing that when used in combination, the processes deliver a success rate of 99%.

A proof of conduct study carried out for Unique Identification Authority of India (UIDAI), the results of which were presented to the Supreme Court, showed that acceptance of Aadhaar identification rose from 83% for senior citizens to close to 100% once facial recognition was mated with finger-prints for authentication.

The findings are encouraging for UID as the problems faced by elder citizens, whose finger-prints are some times worn out due to age and cannot be captured by authentication machines, are hurdles in access to pensions and welfare benefits. The problems of smudged bio-metrics also crop up in the case of persons involved in hard manual labour with fingers getting cracked and calloused.

The study, conduced in old-age homes in nine states, and covering about 4,500 respondents, tested authentication processes with the use of fingerprints, iris, finger-print with iris and facial recognition with finger-print. The finger print with iris method also scored a success rate of 95% acceptance.

The iris method of authentication, in the case of senior citizens, suffers from drawbacks similar to the use of finger prints. The capture of biometric confirmation is problematic with changes in the iris due to age and insertion of medical devices like lenses or conditions like cataract or glaucoma. Yet, the iris method scored higher than the fingerprint identification alone.

UID has worked to increase options and sophistication of technology to reduce authentication failures among groups like seniors and labourers as this takes away from important objectives associated with Aadhaar such as facilitating bank access and direct transfers to vulnerable groups. The use of Aadhaar is intended to make transfer and withdrawal of pensions and life certificate authentications easier.

The authentication process remains vulnerable to lack of internet connectivity in rural India and UID has issued advisories that lack of Aadhaar cannot result in denial of services. It hopes that with the increasing use of Aadhaar the system will improve.

RESULTS ON SENIOR CITIZENS

➤ A proof of conduct (PoC) was conducted at old-age homes in 9 states

➤ 4,349 senior citizens participated in PoC & performed authentication using fingerprint, iris & face

Method	Success rate
Fingerprint	83%
Iris	90%
FP+Iris	95%
Face+FP	99%