



Perception Towards E-Health Services- Government Initiatives In India

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ABSTRACT

Number of Indian government initiatives have been started to create awareness and bring in health conscious among its citizens. Different Missions and various apps are included in such government initiatives. The goal of the current study is to determine the characteristics of government eHealth service users and non-users and examine the distinctions between the two. Present research presents a typology of Urban Indian citizens. Perception and attitude towards usefulness of such government eHealth missions and services are studied through structured questionnaire. Seven distinct groups were found after doing a cluster analysis on 187 responses. Dimensionality reduction techniques preceded cluster analysis. Compilation of results suggests that there is no consistent pattern, as limited number of people have adopted such initiatives. Reluctance and lack of trust in these platforms and apps are found to be some of the major hinderance, limiting the utilisation and adoption by Indian citizens.

Keywords: eHealth Services, Cluster Analysis, Internet users, typology, Urban Indian, India, government initiatives.

INTRODUCTION

Traditionally, health is seen as a personal concern of any individual with exemption of at the most family concern. Over a period corporate and institutions also recognised importance of healthy and fit employees. Further the situation has drastically been changed after COVID by way of various restrictions- wearing mask at public places.

e-HEALTH SERVICES

Utilizing information and communication/ digital technologies or/ and telecommunication services, the Internet, and mobile/ laptop like devices, to encourage health improvement and healthcare services is known as eHealth or e-health care (Evers 2006; Norman et.al, 2006). In its report Forbes (2020) highlighted that e-health has taken a leapy extensive adoption of technology. E- health care emerged in response to improve documentation and tracking health records of patients, further extended to telemedicine or teleconsulting, i.e. providing medical consultancy remotely. Which further extended to electronically due to spread of COVID virus. Due to this, physicians as well as patients can utilise the computerised drugs ordering systems which helps in auto-ordering or consulting at regular intervals. Such services are more beneficial for the senior citizens and physically challenged individuals. But its usage is subject to motivation- financial incentives and support from organisations. Its implementation requires spending on hardware as well as software purchase, maintenance and regular updating. People on one side of a split, if there is one, have access to the newest technology and have the knowledge necessary to use them, yet there are people on the other side who lack both access and expertise. Amidst this situation of pandemic prevailing worldwide, healthcare industry is undergoing changes through developing different business strategies to reshape their

portfolios to bring in financial stability as well as growth via adopting ICT based modern supply chain mechanism (PwC HRI, 2022).

e-health services are being implemented all across the world with its increased adoption by masses for availing healthcare services universally. Resulting (Alanezi 2021). According to Uluc (2016), the healthcare industry is emphasising the integration of ICTs to advance e-health services, provide accessible to even rural areas of the nation, and provide quicker and more accurate diagnoses and treatments. Because Covid-19 has made everyone stay at home, virtual health services are emerging to disrupt the healthcare sector. In these services, caregivers attempt to provide their services remotely. The traditional healthcare system will undergo a full metamorphosis as a result of ICT developments.

eHealth Services -Government Policies and Programs

According to Lahiri (2013), there are two types of eHealth services: IT-enabled services, such as tele-radiology, telemedicine, or tele-diagnostics, and IT-based services, such as medical transcription, medical billing, medical coding, and electronic medical records. ICT can connect the healthcare services accessible to both urban and remote places, claim Miah et al. (2017). Horden et al. (2011) emphasised the advantages of applying ICT in the healthcare sector, including lower costs, less duplication, greater efficiency, and a better perception of the patients' travel, waiting, and comfort in staying at home experiences. With the use of instruments like digital consultation, scrutinising health records, and retrieving real-time health related information, the transformation of the traditional paper-based prescription/report keeping with *e-health* can thereby improve the full range of healthcare sector worldwide.

Hoque (2014) examined the state of e-Health in Bangladesh's public and private sectors, noting several technological and managerial issues. He found that the issues may be resolved by a variety of policymakers' actions. Researchers assessed the extent of the shift to eHealth technologies and looked at alignment between stated strategies and actual practises to promote public health and well-being in another comprehensive study in Italy and European Union, of the e-government strategies, infrastructure implementation aspects as well as organisational and legal issues were highlighted (Domenichiello, M. 2015).

Ahmed et al. (2014) conducted research on the impact of ICTs on Bangladesh's health system development. Alvarez (2002) highlighted population and financial challenges related to access, affordability, quality, accountability, and the integration of ICTs in a Canadian research. The health care system also was facing unique challenges- health-care delivery within a highly decentralised system of financing and accountability, and health- care delivery to a substantial portion of the population spread across the country with extreme climate conditions. All of these problems served as drivers for the creation of technology designed to greatly reduce or eliminate them.

In their 2008 study, Hamid et al. examined the evaluation viewpoint of users of e-health services and offered evaluation standards that affect users' use of and satisfaction with e-health services. They emphasised that rather than being based on a single theory or perspective, evaluation might be criteria-based and can be drawn from one or more particular perspectives or ideas. They offered precise and practical evaluation criteria as well as a methodology for evaluating e-health services. (2010) Christensen et al. conducted research on e-health applications for providing mental health care. They emphasised on development of more accessible, empowering and sustainable models for mental health care for Australians through ICT to derive its benefits- mental-health promotion, detection, prevention, early intervention and for prolonged treatment

In conclusion, it can be said that governments everywhere strive to give their citizens access to high-quality healthcare. The government engages in beneficial actions for the welfare of the populace through promoting health insurance, guaranteeing a robust infrastructure, and raising awareness of health-related concerns. The Indian government occasionally takes similar actions. Continue reading to learn more about India's public health insurance programmes. The key eHealth initiatives and programmes in India are listed below:

1) "Ayushman Bharat Digital Mission (ABDM)"

With his statement- "potential to make a revolutionary shift in India's healthcare facilities." Prime Minister Narendra Modi launched the mission in 2018. ABDM's aim is to introduce interoperability to the Indian health care landscape by creating a digital ecosystem in order to increase efficiency and improve transparency through linking health data from both public and private healthcare.

This Indian government digital initiative includes creation of a randomly generated 14-digit number unique health ID for each citizen, using the biometrics-based Aadhaar. This mission also includes creation of a digital registry of various healthcare professionals and facilities available in India. Health ID will be served as a storage number for the medical records of individuals.

The National Health Policy's suggestions steered to the creation of this programme. It was created based on Universal Health Coverage (UHC). Ayushman Bharat attempts to make India's divided health services complete. It is important to consider the health industry as a whole and make sure that Indians receive ongoing care.

Pradhan Mantri Jan Arogya Yojana and Health and Wellness Centres (HWC) are major aspects of Ayushman Bharat Yojna. 150000 HWCs have been established to guarantee better healthcare. These HWCs are updated

versions of older programmes like Primary Health Centers and Sub Centers. For the impoverished, there is a health insurance programme called PM-JAY. There is provision of annual health benefit to the family, of Rs. 5 lakhs, on a nominal premium of Rs 30.

2) *“Awaz Health Insurance Scheme”*:

For migrant workers the Keralan government started the health insurance programme, which provides insurance against accidental death. The programme, which was introduced in 2017, was aimed at 5 lakh interstate migrant workers who were employed in Kerala. The scheme offers a Rs. 2 lakh death insurance coverage and health insurance coverage of Rs. 15000 and. The age range of the workers who can receive this policy is from 18 to 60. Following the submission and processing of enrolment information about biometric information along with different work-related required documentation, for which an Awaz Health Insurance card is issued.

EHR- A collection of different medical records created during any clinical interaction or incident is called an Electronic Health Record (EHR). With the development of self-care and homecare systems and equipment, useful healthcare data are now generated continuously and have long-term therapeutic importance.

3) *“Aam Aadmi Bima Yojana” (AABY)*

Skilled workers involved in carpentry, handloom weaving, fishing etc., the “Aam Aadmi Bima Yojana” is designed. These 48 defined occupations exist. AABY and JBY, known as “Janashree Bima Yojana” were constituting schemes of a similar sort that existed before to 2013. After 2013 both were combined.

For a Rs. 30000 insurance coverage, the annual premium is Rs. 200. This Yojna requirements include working in 48 stated vocations and be the family head or the family's earning member (around the poverty level).

4) *“Bhamashah Swasthya Bima Yojana”*

An initiative of the state government of Rajasthan, offers-cashless claims insurance programmes for the natives of the state, for Rajasthan farmers. The benefits of this programme can be accessed by people of any age.

Additionally eligible for this insurance plan are participants in the “Rashtriya Swasthya Bima Yojana” (RSBY) and the “National Food Security Act” (NFSA). As long as the terms and restrictions are followed, this programme will pay for hospitalisation costs for both minor and serious illnesses. Both inpatient and outpatient costs are covered.

5) *“Central Government Health Scheme” (CGHS):*

One of the initial effort of Central Government of India, meant for its employees. Judges of the Supreme Court, certain employees of the Railway Board, etc. More than 35 lakh employees and pensioners have been insured by this policy during its six decades of operation.

Hospitalization and in-home care are both covered under the terms and conditions of this plan. The Scheme also includes coverage for homoeopathy and allopathy, covering 71 cities.

6) *“Chief Minister's Comprehensive Insurance Scheme”*

Tamil Nadu state government in collaboration with United India Insurance Company Ltd designed family floater plan which is known as the Chief Minister's Comprehensive Insurance Scheme. It provides high-quality medical care, including hospitalisation in certain government and private hospitals, up to Rs. five lakhs. For Tamil Nadu natives who earns less than Rs. 75,000 annually. The Scheme covers more than a thousand operations.

7) *“Employees' State Insurance Scheme”*

Due to the hazardous working environment in factories, there were fatalities and injuries. The idea of insurance worked well in this situation, so in 1952 this Scheme was established. Financial protection for workers and employees in case of incapacity, illness, or loss of life. Only Kanpur and Delhi were first taken into consideration, but as time went on, the plan's reach grew. The year 2015 saw an improvement to this policy. This programme covered seven pluslakh of factories in India.

8) *“Karunya Health Scheme”*

This scheme of Kerala government offers health insurance for the conditions that are categorised as chronic since 2012. Meant for the poor that provides insurance coverage for serious illnesses like heart related, different type of cancer, kidney failures etc. Designed for Indians- BOP are targeted based on identity proof and other requirements. There were rumours that this programme had been terminated, but they were untrue because the programme is still in operation.

9) *“Mahatma Jyotiba Phule Jan Arogya Yojana”*

For the benefit of its oppressed citizens, the state government of Maharashtra implemented this policy. In 2017, this scheme replaced the “Rajiv Gandhi Jeevandayee Arogya Yojana”.

People in poverty in all districts and farmers from a few districts are both eligible for this programme. It is a family cover with a 150000 rupee benefit.

10) *“Mukhyamantri Amrutum Yojana”*

Introduced in 2012, by the state government of Gujarat for its underprivileged citizens. Families in lower middle class and those who are on the verge of poverty are eligible for this insurance.

This programme gives a 3 lakh rupee annual family floater coverage. Various categories of hospitals-public, private, grant-in-aid hospitals, trust-based hospitals.

Research Methodology

Indian population specifically comprises of youth in their education and are the most active users of digital mode of communication. But behaviour of Indian citizens towards digital platforms cannot be generalised and can be further divided into groups or clusters. This research is intended to identify the typology of Urban Indian citizens as per their behaviour in terms of awareness and attitude towards different governmental online health (eHealth) services- websites, awareness videos, apps etc.

According to Andargoli (2021), there are a number of variables that affect whether e-health systems succeed or fail that are related to regional differences in cultural, environmental, economic, institutional, legal, political, social, technological, etc. Understanding the various viewpoints and variables that both challenge and facilitate the use of e-health services is crucial. Microsoft India President Anant Maheshwari (2022) The disparities between private and public healthcare as well as between urban and rural healthcare in the country (India) have never been as pronounced. The current work has made an effort to investigate the benefits and drawbacks of public e-health services. More specifically, this work attempts to answer the following research goals:

1. To determine the demographics of Urban Indians who utilise and don't use government eHealth services.
2. To examine the variations among Urban Indians who use and don't use government eHealth services.
3. To suggest various measure to improve adoption by non-users of government eHealth services within the Urban Indian population

A quantitative research approach has been employed to accomplish these goals, with the data collection using a well-structured, non-disguised, pre-validated instrument. The most effective research strategy used in the pertinent literature to identify the desired phenomena is a survey. wherein people are directly questioned about how they feel about the study's usage or item with the intention of examining the existing relationships between the factors (Corbetta, 2007).

An online poll of Indian Internet users using Google forms was conducted during June and July 2022. The National Institute of Statistics employed the survey questionnaire, which was created based on a review of pertinent literature (Instituto Nacional de Estadística, 2019). Participants from different parts of the nation and with a variety of social classes and educational backgrounds were contacted via email and WhatsApp in order to improve the general applicability of the findings and to relate to the use of the Internet and the e-Health services provided by the Indian Government.

The sample size was selected based on the analytical tool. In case of India the Urban Internet user group staying in the major PAN India- geographical regions contacted as the most represented of the Indian Urban population.

Demographic profile of the respondents- 81% was male and 45% female; 77% Unmarried and 23% married. Working status - 57% students, 35% employed, 5% Self-employed and 3% Other (Housewife/ retired). The following is how the participants are divided by age: less than 21 (8%), 21-30 (72%), 31 & above (20%).

Respondents reported using multiple eHealth services of public and private players. AarogyaSetu is the most used app, followed by other- Ayushman www.medlineplus.gov., e-hospital, e-Aushadi, National Health Portal of India, Cowin application of government. Other non-public apps/ website included- NCBI, Healthify me, PRACTO, Apollo 247, Tata 1mg, Bajaj life.

Data Analysis

Primary goal, already stipulated are to examine the characteristics of users and non-users, as well as how they behave in connection to using government e-Health services. Unsupervised learning techniques, such as cluster analysis, can be used to identify the groups of users and non-users because there is no single variable in the literature that can explicitly collect the desired information of users and non-users into a single and measurable construct for the approach towards online resources (Denaro et al., 2021). When cases are not identified, the algorithms exploited to uncover unknown but desired divisions or classifications of elements. This is known as unsupervised learning (Blashfield et al., 1978).

Additionally, the literature supports the appropriateness of this method. Adikari et al. (2021) suggested using machine learning to convert social media data into useful insights. The author tackled an evidence-based study to produce useful insights using machine learning algorithms that had strategic relevance. The findings provide fresh viewpoints that encourage the use of social media as it develops as a significant information source. These perspectives can be used to support incremental content development, consumer involvement, and value co-creation, as well as end-to-end open innovation.

To bridge the gap in current techniques, Kar and Dwivedi (2020) have put out their own combination for relevant theory construction. The classification of form group/cluster and clustering centred on the anticipated possibility of utilisation was proposed by Singh et al. (2020). In terms of the methods of analysis used to generate insights and the MIS for the decision-making at a strategic/company and/or institutional level, there are similarities between information communication and the social sciences (Bhattacharya et al., 2016; Chakraborty & Kar, 2017).

Separate analyses were conducted in the current study, one for users of online public health services and the other for non-users. The statistical analysis that is given below was done using SPSS. Three stages are required to do a cluster analysis: calculate the dissimilarity matrix, apply the clustering algorithm to the resulting matrix, and validate the findings (Pan et al., 2013). Following these three phases leads to the selection of several factors, or the selection of the decisions that the researcher or marketer required to make. The following are crucial decisions:

- Distance: the acceptable or proper separation needed to build the dissimilarity matrix.
- Clustering method: appropriate to carry out the clustering and chosen characteristics particular to the approach.
- Number of clusters: suitable for clustering. When there are numerous clusters, the outcome is flawless but has little descriptive value. On the other hand, if the number of clusters is reduced to a low, it can provide an insightful group that does not accurately match the description of that group. Since the number of groups that should exist cannot be determined a priori, it is necessary to analyse the number of outcomes to determine which one best balances description and result.
- Validation measures: While employing unsupervised learning, with no reference variable to match the outcome/results and appraise performance, other quality Indicators are referred. Subjective importance of each plays a crucial role (Deborah et. al 2010).

In light of the aforementioned issues, many scenarios for cluster analyses were evaluated to determine the ideal combinations. Indicators of the robustness of the clustering conducted can be assumed to be several other combinations that produced comparable results (although not exact), leading to the conclusion that the underlying reality is described.

While several distances were taken into account for the dissimilarity matrix¹, the KODAMA method using k-Nearest Neighbors with k=5 eventually produced the best results (Cacciatore et al., 2017).

As a quick and easy procedure that promotes the optimization of results, K-means clustering was chosen as the most suitable alternative for holding analysis with five clusters. Internal metrics and stability metrics were used to choose the best clustering algorithm and number of clusters. The silhouette distance or width between each point and other points in other groups, is one of the internal measures that determines how much each observation and its neighbours are in the same cluster. It serves two purposes: first, it determines whether the observations within each group are sufficiently similar to one another, and second, it determines whether the groups can be sufficiently disconnected from one another. The size of the group is indicated by the Dunn index, which compares the distances between each cluster. Measures of stability look at consistency and show how reliable the findings are. Or, whether observations fall into the same groupings even when a single variable is eliminated. More specifically, using the data gathered and eliminating one column, APN calculates the average proportion of observations not belonging to the same cluster. ADM measures the average distance between cluster centres that are located in the same cluster, whereas AD measures the average distance between observations that are put in similar circumstances. Brock et al., 2008 suggested that for internal, valid, and stability measures K-means was chosen because it provided the best trade-off for both clusters in our investigation across all metrics.

The factors that were retrieved and ranked as having the biggest impact on identifying the differences between the groups A graphic depiction of the accuracy of the clusters was also included in the bi-dimensional plots of the clustering.

Results

88 percent of respondents who were asked to describe their level of Internet use and level of confidence in the public e-Health services offered by the government indicated that they do so (tax returns, medical appointments etc.). almost 27% of respondents say they always feel secure when buying things or using services online, compared to 38% who say they barely ever feel secure, 19% who say they feel secure frequently, 10% who seldom feel secure, and 5% who never feel secure.

The number of people who are confident in public administration websites is very low (9%) or average (52%) while it drops to 29 percent among people who are confident or very confident (5 percent). 47 percent of people believe they have a low or average profile when it comes to the perceived ability to complete transactions and procedures digitally; 4 percent believe their profile is extremely low; 41 percent believe their profile is average; 35 percent think their profile is high; only 14 percent believe their profile is extremely high. Look at Table 1.

Table1. Perception of security and confidence levels in public administration and ability to perform procedures online

Security of performing procedures or shopping online	Confidence in public administration	Ability to perform procedures or shop online
Never	5%	Very Low
		4%

Rarely	10%	Low	5%	Low	6%
Often	19%	Average	52%	Average	41%
Sometimes	38%	High	29%	High	35%
Always	27%	VeryHigh	5%	VeryHigh	14%

Source: Researchers

The Cluster Analysis's findings

Two groups were determined based on the replies given to the two different types of questions after doing a cluster analysis using Jamovi, Ver. 2.3.13, on all of the participant responses. The first describes the way individuals navigate and shows the barriers and drivers that either limit or promote their use of accessible e-health services in India:

- fear of doing a mistake while performing online procedures
- confidence gained by receiving a confirmation of completed procedure
- fear perception of excessive and repeated requests for providing personal data
- perception of greater confidence in popular websites such as Amazon, compared to public.
- impact of previous negative experiences of access codes, whether due to problems experienced or an excessive complexity.
- lack of security (perception) in performing procedures or a perception of not taking actioned them correctly.
- The perception that the website design is excessively complicated and the language excessively technical.
- The impact of negative previous experiences of performing online procedures

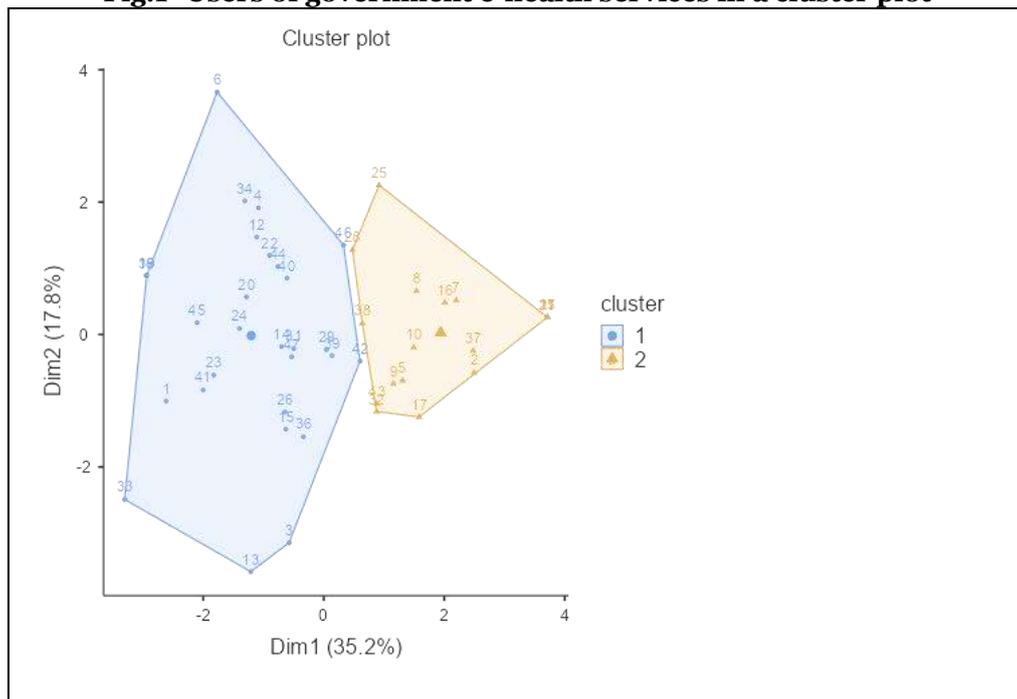
The second set of questions focus on various government initiatives that encourage and support a greater use of e-Health services:

- Using a single access code and a single unifying password.
- Simplified the website's style and content.
- Offering a version customised for consumers' needs.
- The use of a virtual assistant to aid with tasks.
- Getting more instruction
- Getting notification that operations have been finished

Types of Users of Governmental E-Health Services

The first phase involved cluster analysis and the dimensionality reduction procedure that was previously described in the study methodology sections. Cronbach's alpha was 0.790 with a mean of 4.13 and a standard deviation of 0.77 for scale reliability statistics. With k-means clustering and the Hartigan-Wong algorithm, two groups are chosen as the hyperparameters with the best trade-off between internal and stability metrics. This is depicted in Fig. 1.

Fig.1- Users of government e-health services in a cluster plot



Source: Researchers

The replies that most accurately represent each of the groups may be seen in tables 2 and 3. The replies were relatively comparable simultaneously, in every case suitably distinct from those of the other groups. This does not imply that all individuals within the same group answered in the same manner. The following user typology is suggested:

- Confident: Largest group, consisting of 43 participants out of a total of 70 users. It is distinguished by showing no or fewer barriers to public e-Health use and a belief that making the web's content and design simpler is fairly crucial. Additionally, a simplified version for users is preferable to boost the adoption of online processes.
- Cautious: The other group, which consists of 27 people out of a total of 70, exhibits all the mentioned challenges, with the exception of the requirement to obtain authorization before carrying out computerised procedures. This cluster is very interested in the suggested changes to promote the adoption of government e-Health services.

Table 2. e-Health Services of Government customers' preferred methods of navigation

	Afraid of making a mistake	Would like more Confident if received a procedure completion confirmation	Excessive and repeated requests for personal data	Fear of providing personal data	More confidence in private company websites	Experienced problems with codes. Need to be simplified	Excessive number of password make it difficult to manage and remember	N
Confident	No	No	No	No	No	No	No	43
Cautious	Yes	No	Yes	Yes	Yes	Yes	Yes	27

Source: Researchers

Table 3. Request by users of e- Health Services of Government to improve Online procedures

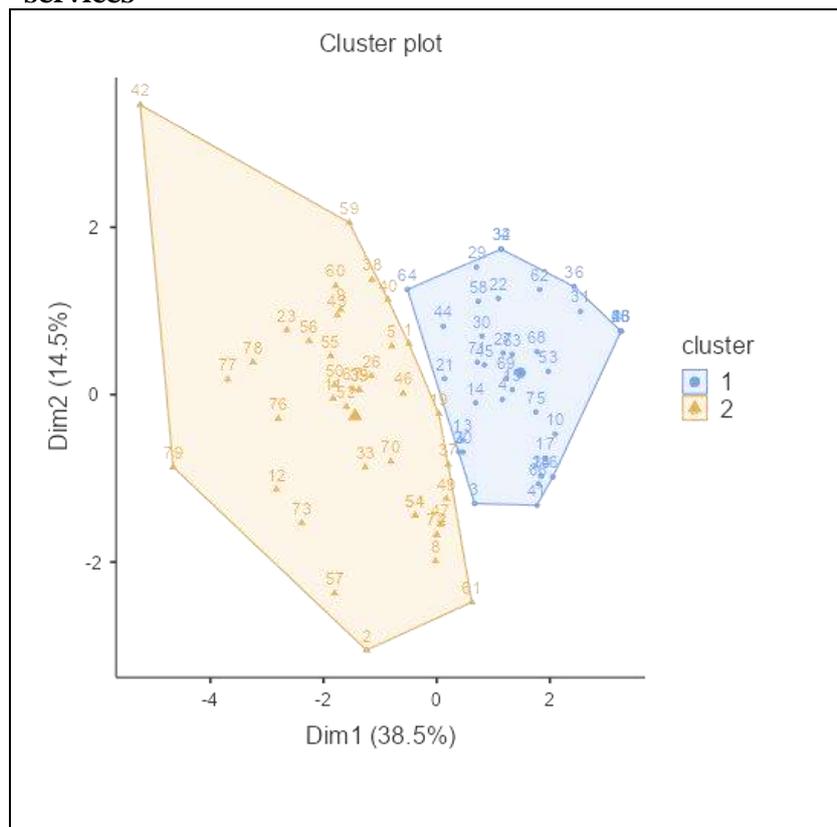
	Would like passwords to be unified	Would like a simplified design and content	Would like a simplified design	Would like a virtual Assistant while completing procedures.	Would like more training	N
Confident	No	Quite interesting	Quite interesting	Not interesting	Not interesting	43
Cautious	Yes	Very interesting	Very interesting	Very interesting	Very interesting	27

Source: Researchers

Typology of Non-users of e- Health Services of Government

For the non-users again, the different options of hyperparameters were made while performing cluster analysis to non – users of the procedures with public e- Health services, Scale Reliability Statistics- Cronbach α was 0.784; while running k-means with two clusters as shown in Fig 2, attain the ideal equilibrium between internal and stability metrics.

Fig.2- Cluster graph non-users of government e-health services



Source: Researchers

According to the answers to the prior questions (tables 4 and 5), the non-user taxonomy can be broken down into the following categories:

- **Fearful:**The first cluster, which consists of 60 out of 117 Non-Users of Government e-Health Services. The majority of them cited barriers. They avoid using the government's e-Health services because they consider them to be extremely unsecure and are wary. Assumed to be abandoned, interested specifically in the websites that are being updated, seeking assurance that procedures have been completed, and learning more about administration. They also express interest in the websites' simplification and the idea of a telephone help line for answering questions while utilising government e-Health services.
- **Demotivated:** This cluster consists of 57 Non-users who had previously tried to use government e-Health services but were unsuccessful. They don't mention any additional barriers to adopting e-Government, and they are particularly interested in enhancing administrative websites to promote usage. This may be caused by problems with internet connectivity.

Table 4. Non-users' preferences for e-Health Services of Government navigation

	Would like password to be unified	Would like a simplified design and content	Would like a simplified design for seniors	Would like a virtual Assistant while completing procedures.	Would like more training	N
Fearful	Yes	Yes	Yes	Yes	Yes	60
Demotivated	No	No	No	No	Yes	57

Source: Researchers

Figure 3 shows that, similar to the situation with non-users of the government's e-health services, the issues that are crucial for determining the differences between groups are those that relate to the adjustments that the administration may make.

Table 5. Improvements to online procedures are requested by people who do not use the government's e-health services.

	Would like passwords to be	Would like a simplified design and content	Would like a simplified design	Would like a virtual Assistant while completing procedures.	Would like more training	N

	unified					
Fearful	Quite interesting	Very interesting	Quite interesting	Very interesting	Very interesting	60
Demotivated	Very interesting	Very interesting	Very interesting	Very interesting	Very interesting	57

Source: Researchers

Discussion & Conclusion

This perspective paper's main objective is to characterise the current state of the eHealth services offered by the Indian government in terms of infrastructure, platforms, and programmes, as well as—and this is crucial—the characteristics of user and nonuser groups. From the above explanation and analysis, about various available opportunities of public e- Health services for Indian citizens, it can be concluded that eHealth care initiatives have gained social acceptance and importance, yet there are a lot of issues and challenges in the digitally divided society where people live with different infrastructures- in absence of electric supply, internet connectivity is a big constrain. However, the current scenario is encouraging as Central and state government in India are holding lots of awareness programs and initiating number of mobile based solutions. Yet, there is still a long way ahead that Indian government needs to take in the direction of regional equality and empowerment by way of digital literacy and awareness of health benefits. Spread of COVID and with time, it has been proved that it is essential not at individual, or family but at country level to support its citizens with respect to positive

attitude towards following healthy lifestyle and encouraging and empowering at national level. Sustainability goal of a Healthy nation can be achieved, in which government can be instrumental via- at personal level by encouraging consciousness to be fit, by providing conducive family moral support, social environment and institutional level-infra support by-way of financial assistance, guidance, technical- consultations and training.

Implications and Future Scope of Study

The goal of this study is to examine how users and non-users of the government of India's e-health services feel about them, as well as the many government programmes that aim to make Indians more health conscious and encourage the use of ICT-based health services. The results can be utilised by the policy maker by way of improving infrastructure and building confidence in the masses to adopt via running various awareness programs and encouraging adoption of such apps by making these more personalised with the help of newer ICT techniques e.g. Chatbots. Further, this research can be extended in the eHealth services by analysing the perception and effectiveness of the various governmental supporting schemes and programs and suggesting the measure to improve their effectiveness.

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