



An overview of Government's digital adoption strategy for Public Health, Vaccination and E-Governance

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Foreword



In pursuit to achieve good governance, massive digitization in Government processes across all workstreams enables wider information share and communication across all sectors. usability of data is aiding the Government to confidently adopt and apply the proven technologies like Software as a Service (SaaS), Platform-as-a-Service (PaaS), Mobility-as-a-Service (MaaS), Cloud, and other related infrastructure at a rapid pace. Access to cheaper data plans and low-cost mobile devices have played a significant role in penetrating the mass market. The Government too has realized, that the apps are trivial for future information and communication with citizens.

This white paper is intended to highlight notable Government apps' progress and demands among the citizen of the country. It also highlights how Government uses mobile apps primarily for information dissemination, promoting citizen-centric schemes and benefit programs, listening to citizen grievances, and do quick sentiment checks. This white paper also touches upon user concerns and challenges faced while using these apps.

Governments have opportunities to fill the gaps, expand and improve seamless service delivery. Efficient and successful service delivery is driven by quality and ease of use which further drives user satisfaction.

We, at Praxis, look forward to continuing the discussion with ecosystems including Government, development agencies, and multi-lateral sectors and exchanging notes on various issues pertaining to the Government's role rendering these services more accessible across beneficiaries in enabling these services more accessible widely across beneficiaries. We look to continuously share perspectives and insights on the sectors and apps.

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Key takeaways

- Government's increased focus on adopting technologies for internal processes such as Software as a Service (SaaS), Platform-as-a-Service (PaaS), Mobility-as-a-Service (MaaS), Cloud, and other related infrastructure at a rapid pace
- Citizens have become more comfortable in adopting digital services like digital payment through UPI and BHIM platform, Bharat Bill Payment System for utility payments, e-filing of income tax, digital locker for eKYC, use of digital certificates, etc. and feel empowered as their usage increases
- Aarogya Setu and CoWin apps have been the most used Government apps among other apps during the COVID-19 pandemic

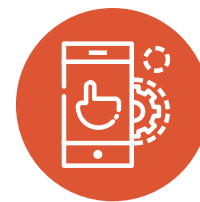
- Emotional scatter and sentiment scores of citizens depicting mixed emotions while using the Government apps
- E-Governance and M-Governance are key tools for Governments to being one step closer to citizens and businesses of the country and enjoy the trust of citizens
- The importance of user experience and managing concerns over data privacy for various Government apps
- Citizens' perceptions are cut across three major categories:



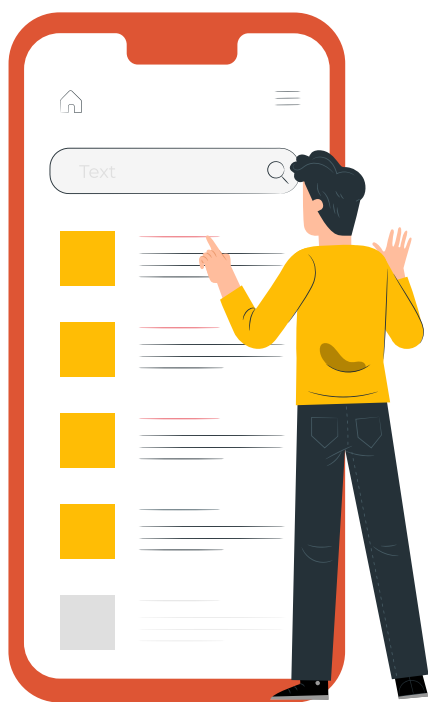
Privacy concerns



User interface/
user experience



Features and
usability





Executive summary

In a developing economy like India, with massive digital adoption across sectors, information and usability of technology especially mobile apps have become more important than ever. The rapid technology shift and resulting digitalization in the past few years in core private sectors have also led Governments (Indian Central and State Governments) to shift their focus to adopt technologies like Software as a Service (SaaS), Platform-as-a-service (PaaS), Mobility-as-a-Service (MaaS), Cloud and other related infrastructure into Government processes.

Governments too have created enterprise-grade mobile apps primarily for wider outreach. In addition to multi-lingual informative content, few apps also enable seamless service delivery to users. In the past, the Government used mobile apps primarily for information dissemination, due diligence, promoting citizen-centric schemes, benefit programs, listening to citizen grievances, and sentiment checks. While these are key activities focused externally towards citizens, mobile apps also support them in their internal process improvements and enable them to build strong governance models.

Convenience, transparency, and usability with a good framework are key attributes while embedding services in mobile apps. As described later in this document, with demand for more information, extensive services available through mobile apps, there is scope for improvements in the apps in terms of adding more usable features, enhancing the coverage of information, and 24x7 accessibility.

E-Governance in India is a progressive concept. Mobile Governance (M-Governance) is a sub-domain of E-Governance. In M-Governance, the same e-services are accessible to individuals via mobile platforms, thus bypassing the need for working through traditional physical networks for communication. With the increasing openness of mobile platforms and large user base, Governments are promoting and using mobile for delivering various E-Governance services. Over the past few years, cheaper feature-rich mobile phones, inexpensive data plans, social media, and emerging content platforms have not only empowered citizens in urban areas but also tier II and III centers. The citizens have become more comfortable in adopting digital services like digital payment through UPI and BHIM platform, Bharat Bill Payment System (BPPS) for utility payments, e-filing of income tax, digital locker for eKYC, use of digital certificates, etc. and feel empowered as their usage increases. India has seen record growth in digital transactions within a few years in this thriving digital ecosystem.

Under the Digital India initiative, Government re-launched and promoted various new programs, schemes, services, and platforms ranging from National Portal of India, Prime Minister of India portal, BHIM and UPI, BPPS, mAadhar, online tax filings payments, Swamitva Yojana - digital land management systems, Common Entrance Test etc.

Primary focus of E-Governance:

- To support and simplify governance for Government, citizens, and businesses
- To build responsible Government supervision while addressing the society's needs and expectations through efficient public services and effective interaction between the individuals, businesses, and Government
- To promote transparency in Government
- To guarantee speedy administration of services and data

To ensure transparency, efficiency, and reliability of Government services at a reasonable cost, the Ministry of Electronics and Information Technology (MeitY) and Department of Administrative Reforms and Public Grievances (DARPG) in 2006 pushed various reforms through a national E-Governance plan (NeGP).

During the time of the pandemic, many apps were launched specifically for dealing with lockdowns or for building citizen awareness and information related to COVID-19. Many of these apps are part of the Digital India initiative.

Apps are made available on the e-store of smartphones and can be downloaded for free. These apps provide useful information on how to maintain social distancing, booking vaccination slots, as well as recent updates on Government policies, etc.

Apps commissioned by the Government with the highest usability among the citizens:



Aarogya Setu

- To help people during the COVID-19 pandemic. It connects Indian citizens with essential health-related information. The app is developed to fight the ongoing pandemic and help the Department of Health to reach out to more people.



mAadhar

- This app is used to store a digital version or a soft copy of your Aadhaar card, which can be used for verification. Can also perform functions like updating the address or ordering a reprint of the Aadhaar card. The app supports multiple languages such as Hindi, Bangla, Kannada, and others.



UMANG

- Unified Mobile Application which provides access to Central and State Government services including Aadhar, Digital Locker, PAN, Employee Provident Fund (EPF) services, etc.



DigiLocker

- Digitally store important documents like mark sheets, PAN, Aadhar, and degree certificates. This reduces the need for physical documents and facilitates the easy sharing of documents.



BHIM UPI

- Bharat interface for money (BHIM) can be viewed as a digital wallet. The use of this app is to transfer money or receive money from one bank account to another. These transactions are not dependent upon the working hours of the bank, thereby enabling citizens to initiate transactions and receive money anytime. The app can be used to pay money via QR codes as well. This app is offered by the National Payments Corporation of India (NPCI).



Co-WIN Vaccinator

- Co-WIN facilitates real-time information of vaccine stocks, storage temperature, slots, registration during the COVID-19 vaccination drive.



mParivahan

- A beneficial app brought by the National Informatics Centre (NIC). Can use the app to access information concerning Regional Transport Offices (RTO) and vehicles. This app comes in handy to locate the nearest RTO or the nearest pollution checking center.



mPassport Seva









- The mPassport Seva app is offered by the Consular, Passport, and Visa (CPV) division of the Indian Government's Ministry of External Affairs. It is a part of the Passport Seva Project that helps to provide passport-related services to the public in a convenient manner. passport-related services to the public in a convenient manner.









- This Government app offers a platform for citizen engagement. It encourages direct citizen participation by offering an avenue for posting comments related to policies and other initiatives. During the COVID-19 pandemic, the app offers nationwide and state-wide patient statistics. The app can be used to stay up to date with recent happenings regarding Indian policies.


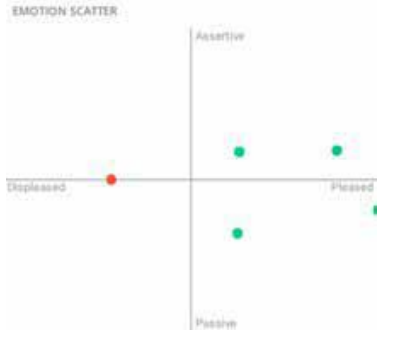


- POSHAN Tracker app provides a 360-degree view of the activities of Anganwadi Centre (AWC), service deliveries of Anganwadi Workers (AWWs), and complete beneficiary management for pregnant women, lactating mothers, children, adolescent girls, and adolescent boys. The developed system enables real-time monitoring and tracking of all AWCs, AWWs, and beneficiaries.



Understanding app use among citizens

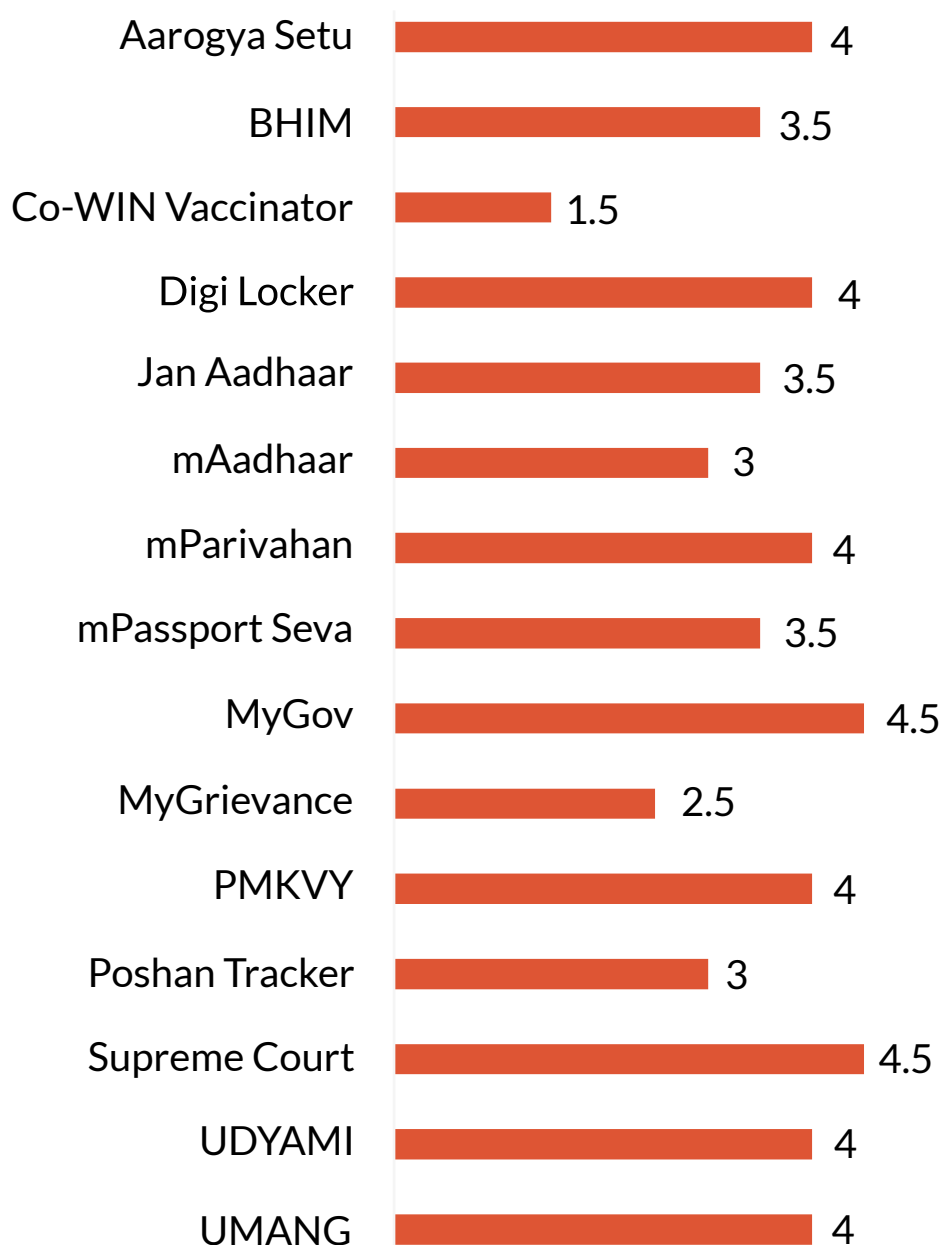
Apps	Emotion scatter	Sentiment score	Top associations
 Aarogya Setu		C+	Vaccination, OTP, working, showing, register
 BHIM UPI		B	Working, payment, showing, transaction, mobile
 DigiLocker		B	Documents, OTP, working, certificate, upload
 mAadhar		C+	Working, OTP, showing, wrong,

Apps	Emotion Scatter	Sentiment Score	Top associations
 UMANG		B+	Working, service, OTP, trying,
 Co-WIN		D-	OTP, working, login, received
 mPassport Seva		D+	Passport, service, application, apply, superb
 Poshan Tracker		B-	Working, option, delete, Hindi bugs

Apps	Emotion Scatter	Sentiment Score	Top associations
 Supreme Court of India		D+	Hearing, case, status, language, updation
 UDYAMI		C+	Entrepreneurs, training, knowledge, application, certificate

We can see the emotion scatter graph of **Aarogya Setu, mAadhar, UMANG, BHIM** depict mixed emotions of the users. User feedback has been dismal around late OTP delivery, improper functioning of the apps from their perspective, etc. which results in a lower sentiment score.

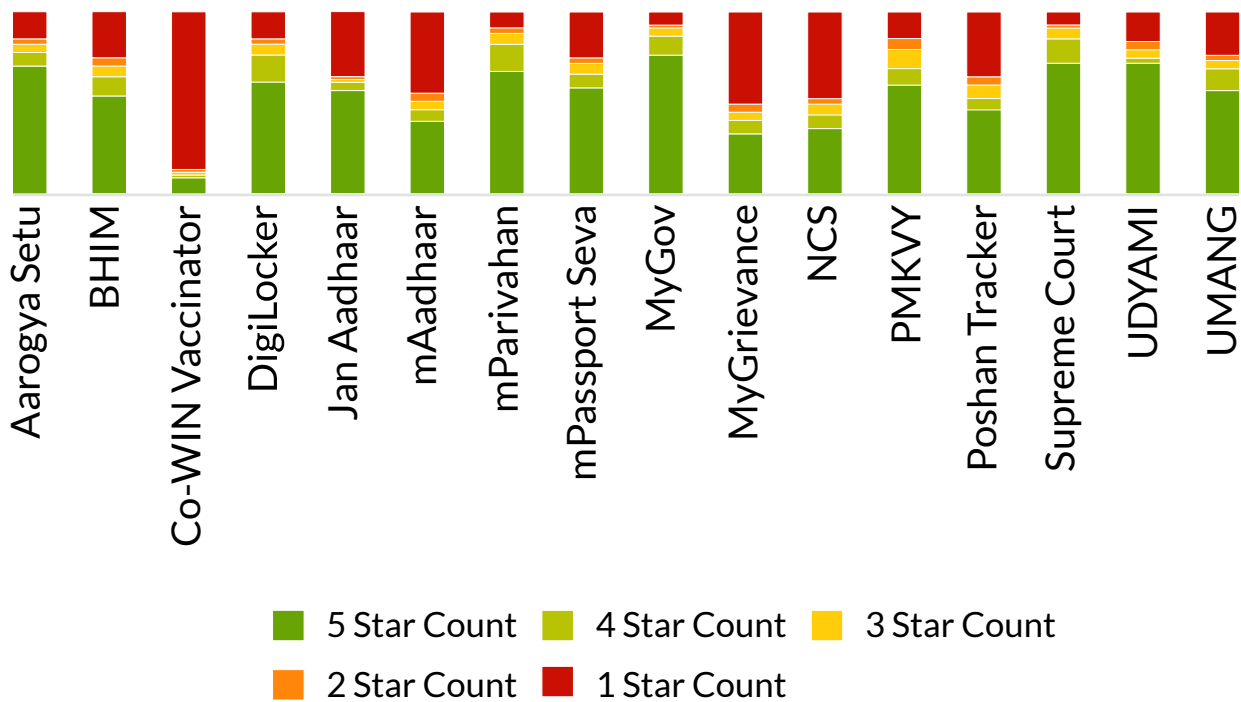
Average review (star ratings 1-5 on app stores)



Source: Praxis analysis

MyGov, Aarogya setu, Supreme Court of India, Digi locker are one of the apps with high scores (average star rating above 4.0), primarily due to their user interface and criticality of their features. Low scores of the Co-WIN vaccinator app may have more to do with scarcity in vaccine supplies instead of the app itself.

Star review #count (1-5 ratings on app stores)

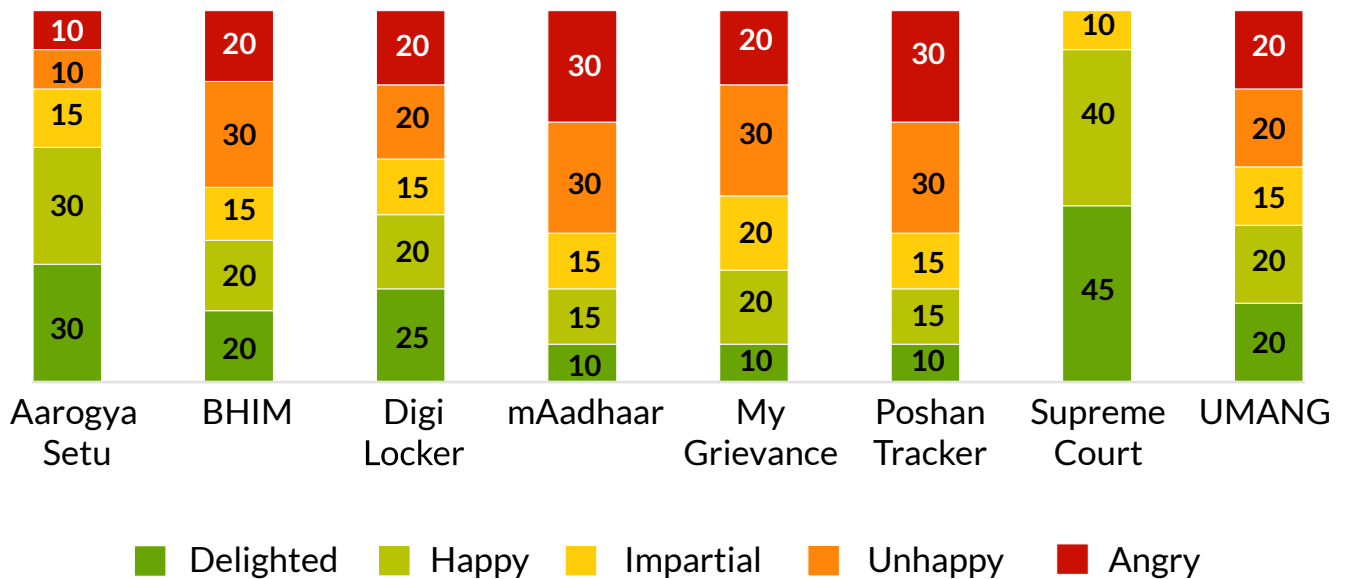


Source: Praxis analysis

Aarogya Setu has the highest 5-star count of 1.92 lacs over the year while Co-Win vaccinator got the lowest scores (possible reasons as described earlier). Apps having higher 5-star counts typically have high engagement levels with users and are updated with the latest Government policies and processes.



Breakdown of user emotions (%) for one year period (May 2020-21)

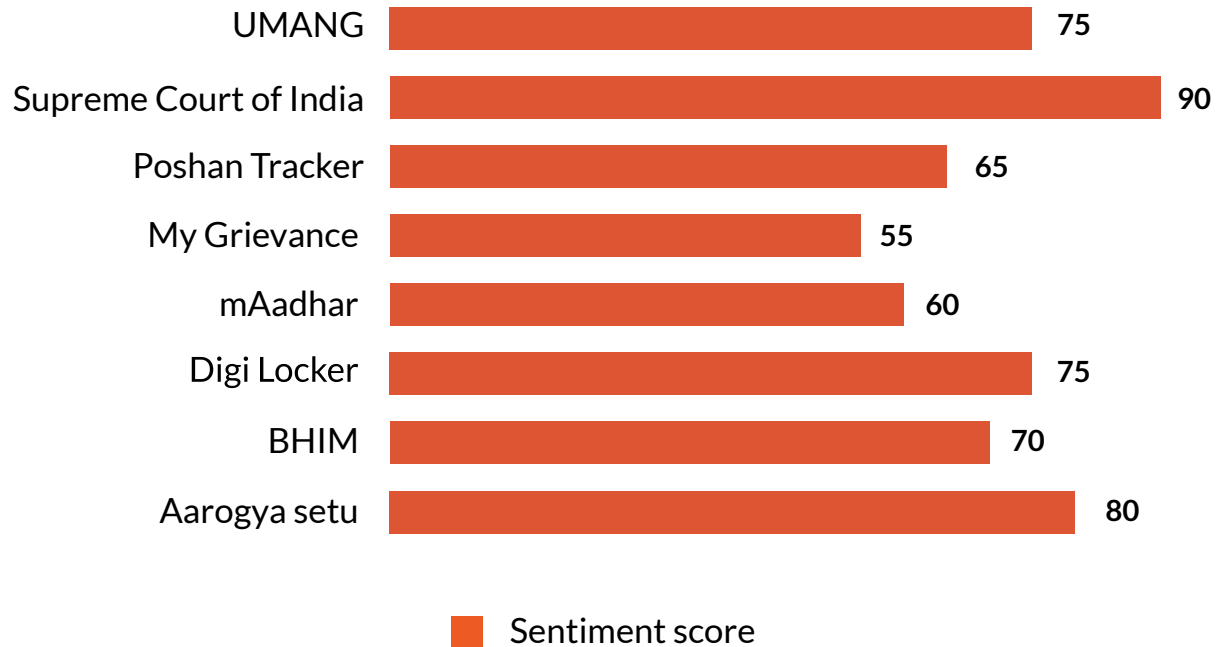


Source: Praxis analysis

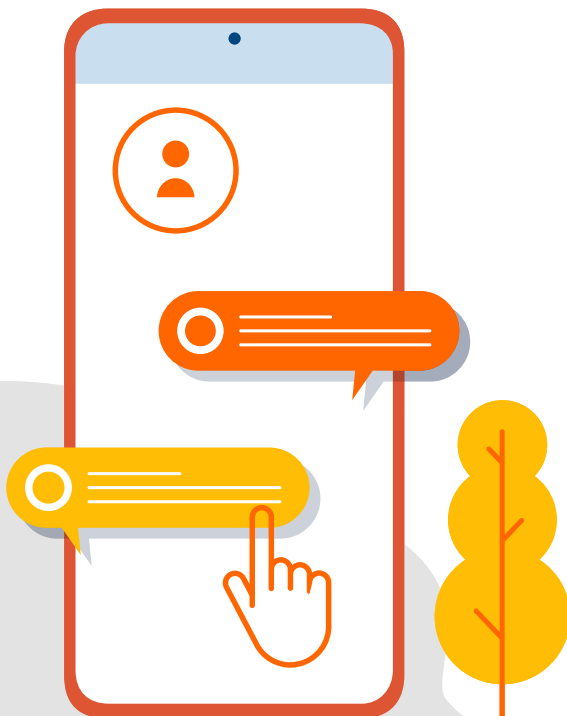
App users of Aarogya Setu and Supreme Court of India are delighted and happy with the app's performance and functionalities, resulting in the highest sentiment score over the other apps. Whereas on the other hand users of mAadhar feel that it has potential but needs improvement in terms of user interface and performance glitches such as downloading speed, registration on the app, and delay in OTP delivery.



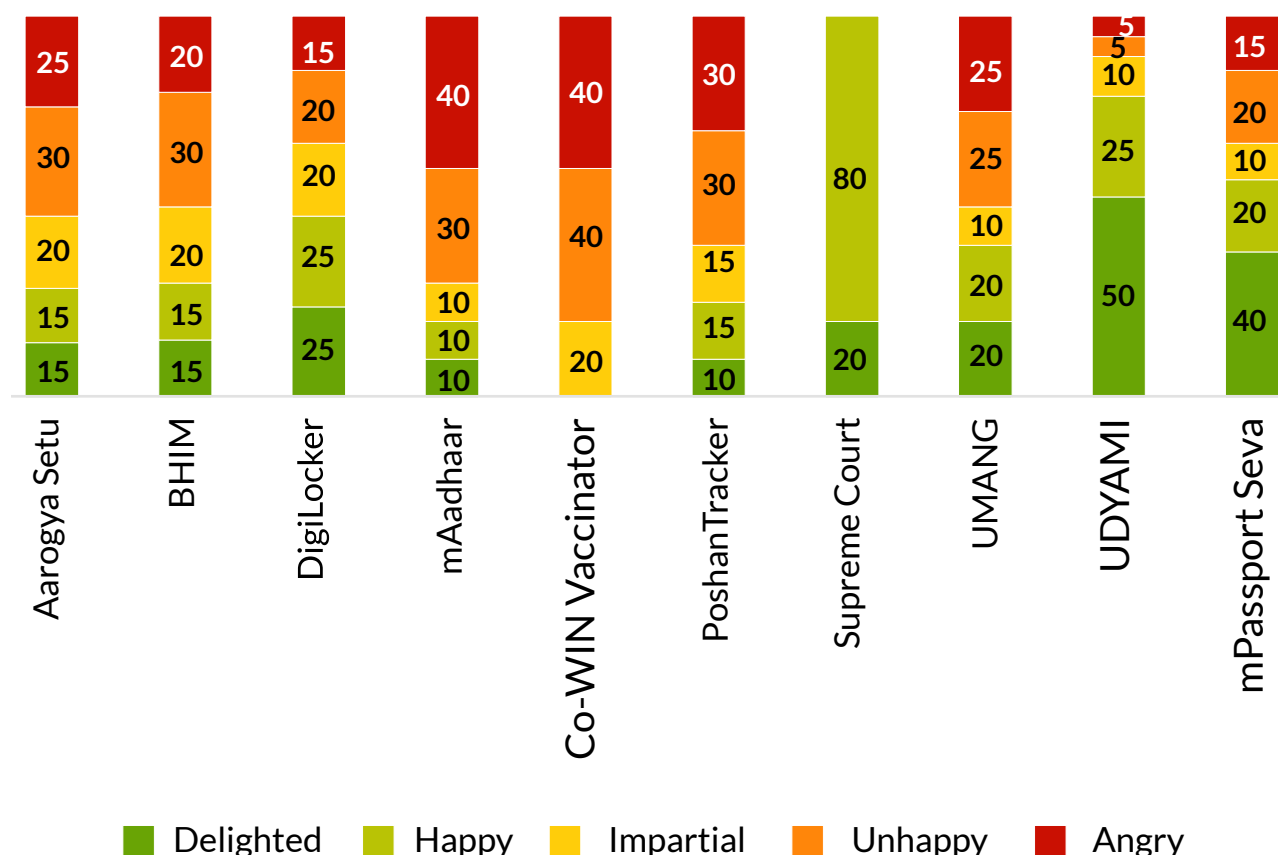
Sentiment #score for one year (May 2020-21)



Source: Praxis analysis



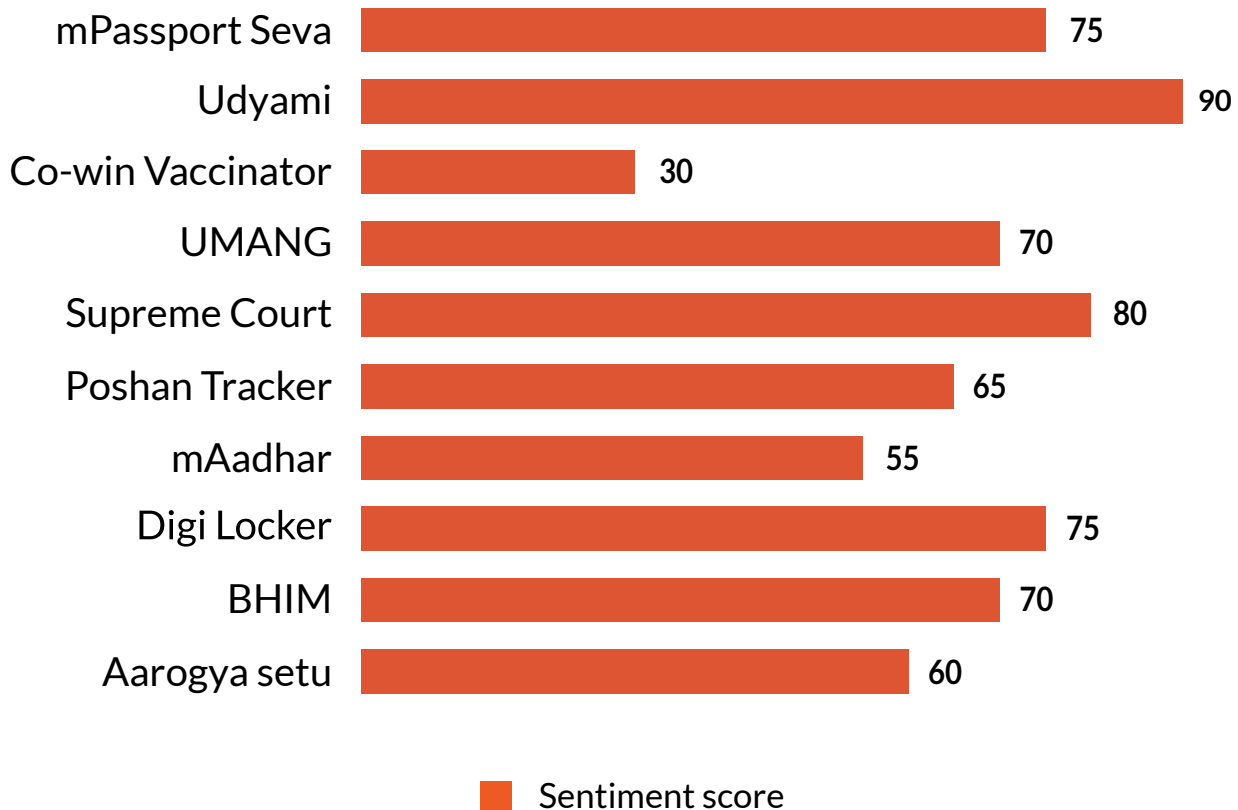
Breakdown of user emotions (%) for 3-month period (10 Feb 2021 – 11 May 2021)



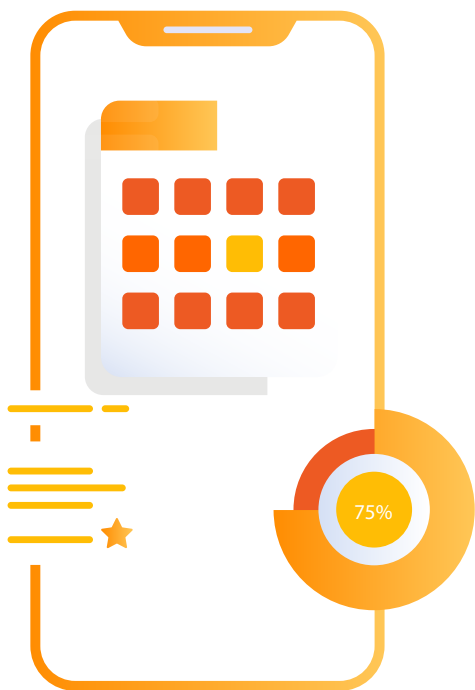
Source: Praxis analysis

Over the last three months, the vaccination drive and registration are going on with full force all over the country, resulting in increased usage of COVID-19 and vaccine-related apps launched by the Government. The Co-Win vaccinator app recently launched by the Government is for providing vaccine updates. The sentiment score and the emotion scatter breakdown of the Government COVID-19 related app in last the three months have been quite different due to the second wave of COVID-19 as the usage of the vaccine registration app spiked amidst scarcity of vaccine supplies. Sentiment score and emotion breakdown patterns for other apps remained mostly unchanged from last year.

Sentiment #score for 3-month period (10 Feb 2021 – 11 May 2021)



Source: Praxis analysis



Perception of various Government apps amongst citizens:

Behavioral perception of citizens for the apps



Privacy issues

- Blanket limited liability on the Government is provided by Terms of Service (TOS) leading to no accountability or records in case of data theft.
- The Aarogya Setu app did not address privacy concerns for users.
- The closed source architecture of the app breaches transparency principles.
- Ever-changing rules add to the problem as the app updates its privacy policy without alerting the users. Such actions do not stimulate trust.
- Users do not have control over their data, thus lacking the moral right to his/her self-determination and the right to be forgotten.
- Key tools considered in curtailing the pandemic, the launch of Punjab's Corona Virus Alert (COVA) app, and dozens of other tracing apps being used by different states have been mired in concerns over privacy issues.
- E.g., Aarogya Setu, Co-WIN Vaccinator



User interface/user experience

- These apps are not much of use for low-income non-smartphone users. There exists no alternative for them as well.
- The feedback attributed to services includes delays and ignorance in resolving app issues.

- The User Interface of the Government websites has been made very handy, simplified, and easy to use because of the literacy contrast of the country.
- They are free of cost to download.
- mParivahaan app and mPassport Seva has positive feedback from a majority of users and is reliable and gives a user-friendly experience.
- These apps include: Aarogya Setu (UX), Poshan Tracker (UX), Co-WIN vaccinator (UX), mPassport Seva (UI)



Features and usability

- Slow load time, and crashes immediately after installation.
- The COVID apps use Bluetooth and GPS on smartphones to evaluate a user's risk of infection based on their location and their medical and travel history.
- The feedback attributed to services includes delays and ignorance in resolving app issues.
- The Co-Win app was crashed and down just after it was released as it could not take user load and the glitch was observed by the users.
- Usability, performance, and reliability of the Government apps during the crisis are not up to the mark. As we can see in last three months.
- SMS, OTP, and registration link delays observed on COVID-19 related apps by a majority of users.
- Apps such as Aarogya Setu, mAadhar, Co-WIN vaccinator

The major issue for citizens is that privacy policies are not disclosed/easy to access in the apps; further, the use of open-source software and lack of clarity on issues like data retention and sharing enhances their anxiety. Privacy is one of the major concerns observed followed by user experience. Also, during the pandemic time, the apps meant for COVID-19 purposes have underperformed or have at least borne the brunt of citizens' vexations around vaccine supply shortages.

A photograph of two women, likely from South Asia, wearing traditional headscarves (one yellow and red, the other white and green). They are sitting on a woven mat and looking intently at a laptop screen. The background is a textured, blue and white wall. An orange rectangular box is overlaid on the image, containing the word 'Conclusion' in white text.

Conclusion

E-Governance and M-Governance are key tools for Governments to re-invent themselves by being one step closer to citizens and businesses of the country and enjoy the trust of citizens. To make the delivery of Government services more efficient and successful across various Government domains, quality and ease of use of mobile apps are very important to drive user satisfaction. Therefore, fulfilling mobile users' expectations is a must and should be the priority for such apps. For an app to constantly meet the needs and preferences of the users under real-world conditions, user experience and providing comfort to users on data privacy are vital.

Specific practitioner expertise

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30%
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60%
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We will be happy to share perspectives

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