International
Civil Society Centre

Code for Pakistan

- Fellowship Program

ORGANISATION
Code for Pakistan

LOCATION
Pakistan

INNOVATION SPECTRUM
Digital equity

MATURITY LEVEL
Established

The organisation

Code for Pakistan (CfP) works to harness the power of people and technology to build a better, citizen-centred ecosystem of governance for everyone. It works in civic tech and government tech to devise programmes and initiatives that meet the needs of people where they are. Since 2014, CfP has worked with around 50 government departments – at both provincial and federal levels - on digital solutions that better serve communities and transform how governments use technology.

The big idea

Over the past seven years, Code for Pakistan has fine-tuned a Fellowship Program which enables young IT professionals to work alongside government institutions to develop tech solutions desperately needed by these under-resourced departments. The Fellowship Program also introduces government officers to the idea of creating technology that is designed around communities and citizens, and helps familiarise them with design thinking and human-centred design concepts. The rigorous curriculum provides the Fellows with training, mentorship from industry experts, and exposure to the inner workings of government.

Modelled after the Code for America Fellowship, Code for Pakistan launched the Khyber Pakhtunkhwa (KP) Government Innovation Fellowship Program in partnership with the KP Information Board and the World Bank in 2014. After seven successful cycles of the program at province level in KP, CfP then replicated the Fellowship model at the federal level, launching a pilot with the National Institute of Health (NIH). This relationship was developed during the pandemic, when CfP worked with Digital Pakistan, the country's digital transformation agency, to develop the nation's first COVID-19 dashboard.

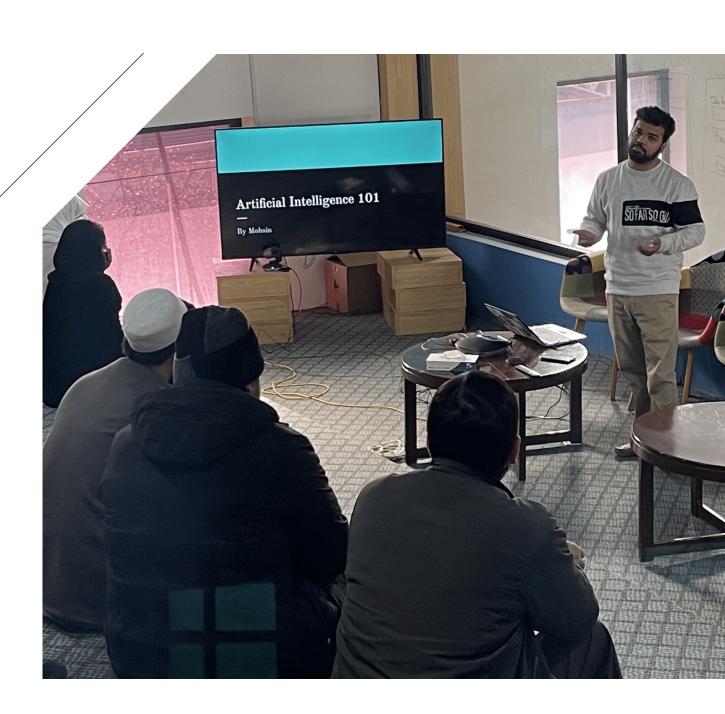# The opportunity and the power dynamics of the system

Systems and processes in Pakistan are still largely disjointed, but there has been a notable shift in attitude from the government, which has recently committed to digital transformation at all levels, to better serve citizens and bring openness and transparency to data and policies. This is reflected in recent developments including: an unprecedented technology package being announced by the Ministry of Information Technology and Telecommunication (MoITT), government approval of Pakistan's first ever Cloud First Policy to streamline and upgrade the public sector IT landscape, and the development of open data policies at both Federal Cabinet and provincial levels in KP. There is also a concerted drive towards including underserved and marginalised communities in government services. This is reflected by, for example, an initiative launched by the Pakistan Telecom Authority (PTA) to reduce the country's digital gender gap, and a campaign by the National Database Registration Authority (NADRA) to register transgender persons.

Such strategic decisions have contributed to Pakistan's digital ecosystem experiencing unprecedented growth, which in turn indirectly influences the government's aspirations to digitise services, provide access to data, and welcome participation from civil society in achieving national goals. However, the aspirations of the Pakistan government to deliver services to the population cannot be accomplished alone. It has the financial resources to improve services through technology, but lacks the capacity to deliver viable solutions. This means it needs to partner with industry experts who have the skills to design and implement tech solutions that meet the needs of citizens.

Challenges also continue between the government and citizens in terms of open and transparent access to data, service delivery, and mutual trust and confidence. An organisation like Code for Pakistan can also serve as an agent to strengthen relationships between the government and civil society, by creating channels for communication and collaboration through their initiatives.

Another power dynamic the Program addresses is to increase the diversity and inclusion, especially of women, in civic tech. Women in Pakistan are underrepresented in the workforce and the disparity is more drastic in the technology sector. Code for Pakistan aims to create opportunities for women to upskill themselves and fully participate in the wider civic tech and government tech sectors.

With this proven track record of creating citizen-centred health tech during the TECH-NIH Fellowship, Code for Pakistan was approached by the World Health Organisation (WHO) to create a Health Care Associated Infections (HCAI) App that monitors and tracks the frequency of infections within hospitals in Pakistan. CfP is partnering with a government hospital, as a test case for the app, which is open source so can be modified and offered to other hospitals in the country. WHO is also currently considering scaling this to other countries.

Intervening in the power dynamics

Ibraheem Saleep, Senior Manager, Fellowships for CfP explains how with the Program "we believe that the benefit of resourcing and training young IT professionals is two-fold; we are providing our people with the chance to make a change in government while at the same time closing the gaps in service delivery for people in Pakistan. "

To help address disjointed government systems and inefficiency, tech industry experts are engaged through the Fellowship Program, with three main objectives:

1 | To enable young IT professionals who wouldn't otherwise have the chance to work with the government to participate in projects that benefit the country and produce real impact

2 | To introduce government officers to an approach and methodology that is citizen-centred

3 | To help under-resourced government agencies innovate and improve public service delivery

" Do whatever you can with whatever you have...build it anyway, build it in the open, talk about it...you might be surprised. "

ALI RAZA, DIRECTOR OF TECHNOLOGY,
CODE FOR PAKISTAN

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Fellows are provided a monthly stipend for six months, professional mentorship, free workspace, trainings on the latest software development tools and tech stacks, leadership development training, and the chance to work with a government department on real-world solutions to improve public service delivery. After graduation, the fellows are linked with various public, private and international organisations for better employment opportunities.

The KP Government Innovation Fellowship Program has been running the longest, with a methodology and curriculum that is adjusted every year to better meet the needs of Fellows and the partner government agencies. Code for Pakistan is now currently engaging with two other provinces to replicate the program and further improve civic governance.

The Fellowship also included a successful Women's Civic Internship Program, as a talent pipeline to create opportunities for women from remote geographies and underserved communities of KP province to work alongside the Fellows. The future aim is to develop similar new programs not only for women, but also for people with disabilities and other marginalised groups to contribute to the civic tech sector.

With the beneficial results from the initiative in KP, CfP successfully pitched the model to the National Institute of Health (NIH), which in turn produced the federal-level pilot TECH-NIH Fellowship Program. This three-month course fosters collaboration between a team of talented researchers, community organisers, designers and developers to cultivate government innovation and improve service delivery to the population they work for. Each Fellow is selected based on their skills and the major outcomes the program aims to deliver.

This program has resulted in critical citizen-focused technologies, such as a mother-gynaecology appointment system that enables women to schedule an appointment easily with an obstetrician/gynaecologist. The Fellowship team created an app, Expecting Mothers, that is user-friendly, streamlines communication between the doctors and patients, and provides accessible information to track the wellbeing and growth of the mother and foetus during pregnancy. Patients can now use the app to easily schedule an appointment with a doctor of their choice, by selecting an open slot in their calendar, and via voice and video calls. Doctors can attach notes and prescriptions for the patients, so that women in Pakistan, who often live remotely and have no real access to public transport, can easily keep in touch.

Aspects underpinning innovation

The program aims to build capacity, increase efficiency, promote transparency, and enhance accountability within the government, while improving citizens' access to government services. The services developed during the Fellowship follow the best practices in human-centred design. The Fellows conduct user research to create solutions that best meet citizens' needs, which influences the selection criteria of problem statements for each Fellowship cycle. The Fellows only build the solutions that have the highest potential for citizen facilitation and impact, and also interview users after each development phase to continuously incorporate their feedback. Local language features are incorporated within the apps, and the current Fellows are also adding accessibility options.

By following this process, the services designed have been found to be more effective, giving the stakeholders a sense of ownership and opening new avenues for building innovative services. The user research also opens feedback loops between the government and citizens, builds trust in public services and leads to higher project adoption rates within government. For citizens, the solutions developed ease their interaction with the government, ensuring they can benefit from public services quickly and efficiently. For the government, the solutions help save time and cost and enable them to meet citizens' needs more effectively.

Increasing citizen engagement and enhancing citizen-government partnership are at the heart of the Fellowship Program's fundamental purpose. CfP also collaborates closely with volunteers and people from the community who are enthusiastic about the use of technology to tackle civic concerns. The Fellowship Program has the potential to influence the annual civic hackathons and ideathons where citizens from different communities come together to collaborate to develop solutions for civic needs.

The digital solutions developed under the Fellowship Program are open source and use open source licences; this means that the cost of development and cost of maintaining these solutions is lower compared to proprietary software. These innovations are built on popular open source technology stacks so that government departments can easily manage and sustain them. The source code of all the solutions developed under the Fellowship Program is accessible on GitHub to enable local and international governments to potentially reuse or redeploy these digital solutions in their localities.

Impact and influence

Since 2014, the digital solutions developed under the KP province Fellowship Program have significantly improved government processes, created more efficient services and saved extensive resources. More than 35 government departments have been supported, and around 1.4 million citizens reached through 50 digital solutions. At least an estimated 120,000 hours of employee labour has been saved through digital transformation, and almost 400 government officials trained on areas such as agile methodology and human-centred design.

The Fellowship Program has also by now delivered significant capacity building of local IT talent. The flagship Fellowship Program in KP began with 12 part-time fellows in the first year and increased to 20 full-time fellows in the successive six cycles, with each cohort working towards making the government-to-citizen interaction less cumbersome and more seamless for all involved. To date, 135 Fellows have now graduated from the KP Program, with a close to 100% employment rate afterwards.

Beyond building applications and digitising processes, CfP has strived to create a culture where the government is increasingly citizen-centred and fosters an environment for citizens and government to work together to create social impact. In the process, the organisation has seen the citizen-to-government relationship transform in meaningful ways. From complaint redressal systems, reporting systems to open data portals, these digital transformation initiatives enable the government to reach citizens where they are.

Through the success of the Fellowship Program, CfP was also asked to advise on Pakistan's first Open Data Policy for KP province, aiding the organisation's credibility to further participate in the adoption of tech policies within the federal government. In future, CfP aims to collaborate further with other government agencies to work on digitisation projects and policy and strategy development, as the program expands.

Key takeaways

Government-citizen collaboration is a win-win

The Fellowship Program is an excellent example of providing a platform for collaboration whereby citizens can closely engage with and directly improve their trust in the government, whilst creating large-scale impact in their areas of interest or where support is needed.

Tech intervention needs to be thoughtful

There is no 'one size' tech solution to various civic challenges, and each needs a customised solution with proper research with intended users on feasibility, to avoid wasting resources and a lack of uptake.

Go 'hard on the hustle' and build your brand

CfP has a list of projects that are desirable and come up with strategies to pique interest from potential government partners. As often happens in government, tangible progress is hindered by bureaucracy and inefficiencies that slow down processes. In large part thanks to the Fellowship Program, CfP has developed a strong network of allies - partner organisations, volunteers, mentors and bureaucrats - who are always willing to put in a good word about the organisation and recommend projects that could benefit from the team's input. It was mainly through an alliance with the Prime Minister's Digital Pakistan team that the program grew from the provincial to the federal level.

Stay true to your program

While adapting initiatives to fit the constraints of strategic partners is often recommended, it can also hinder processes that have been designed and streamlined over time. For instance, the TECH-NIH Fellowship Program had to be modified and shortened considerably from six to three months to fit the timelines and budget of the NIH, which meant the Fellows were challenged by pressure to deliver projects in only half the time.

The next 5+ years...

CfP will continue to work with similar organisations and initiatives well aligned with its long-term objectives, which include creating more citizen-centred government services, enhancing citizens' participation in designing solutions to the problems that matter most to them, and upgrading government departments to cope with new demands of the digital age.

The most predictable scenario in the next 5+ years is the prevalence of technology in all spheres of life, and the paramount need to upgrade the government to catch up to new advancements in technology. This means the need for more advanced and robust digital services that can cater to the demands of millions of digitally-native citizens. Code for Pakistan envisions the formation of Digital Services Units (DSUs) that will operate within the government, having teams and resources capable of developing advanced digital platforms and solutions that are transformative and innovative in their problem-solving approach. These DSUs would act as extensions to the Fellowship Programs, absorbing the pipeline of trained talent, and enabling the government to enhance its capabilities and self-reliance in developing advanced digital solutions which cater to citizens' needs.

Government 2.0 is only possible with citizens and governments working together. As consumer technology is moving towards decentralisation, citizens will likely demand a similar form of government that gives way for data privacy, open data and open access. As telecommunications networks and information and communications technologies move towards 5G, citizens will increasingly expect the same level of high-speed access to government services. Civic tech can play a crucial role in upgrading government solutions and enabling citizens to play a direct participatory role in creating the tools and services for the future.

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