Section 3
Technology and Public Service Delivery

Electronic Voting Machines For Pakistan: Opportunities, Challenges, And The Way Forward

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This paper is an attempt to structure the ongoing debate around Electronic Voting Machines (EVMs) and election technology in Pakistan and ground the discourse in research, international best practices, and expert guidelines. EVMs have been used in different countries since the 1960s and have proved highly controversial. A concerning trend has emerged over the last two decades in those various developed countries, including Ireland, the Netherlands, and Germany, have phased out or terminated their EVM deployments over concerns of voter privacy and election integrity. At the same time, deployment of EVMs in developing countries, such as India, Brazil, Venezuela, and Philippines, has yielded mixed results. There is therefore an urgent need to decipher this trend such that we may maximize the gains of these technologies and avoid mistakes made by other countries.

Moreover, revolutionary new technologies have emerged in recent years which enable citizens and observers to verify and audit election results. Technologies such as end-to-end verifiable voting and risk limiting audits are being developed and piloted in the West, but there is as such, little recognition of the unique challenges in adapting these methodologies in developing countries like Pakistan. There is a need to make these technologies accessible to election stakeholders and to precisely identify the critical research gaps and challenges we need to address in Pakistan. This paper draws together these complementary lines of inquiry and provides a comprehensive vision for election technology in Pakistan. We also present recommendations to address these challenges at every stage. The accompanying roadmap spells out these recommendations in the
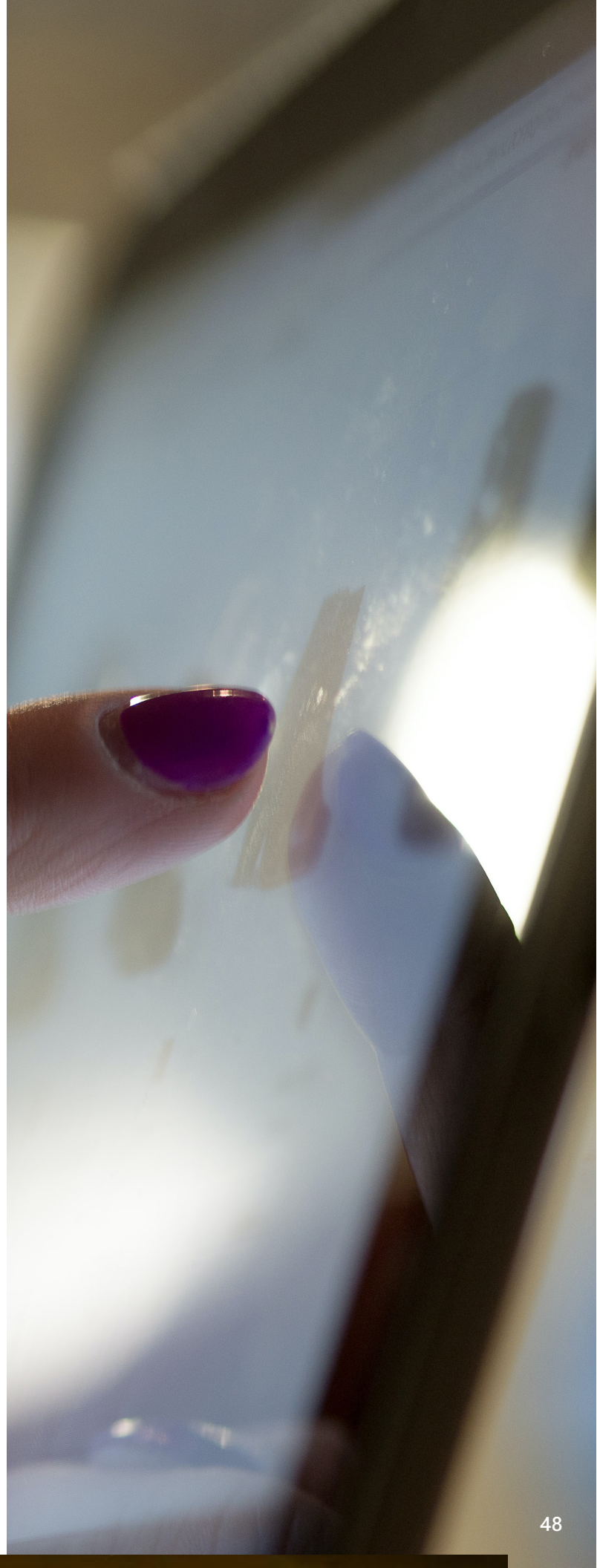
form of concrete detailed steps that stakeholders need to take. This paper provides a framework for such efforts and is supported by a detailed roadmap which describes the key steps that stakeholders need to take to successfully deploy EVMs and election technology in Pakistan.

Transforming Public Sector Through Digital Governance Initiatives In Khyber Pakhtunkhwa: Bureaucratic Conduct, Transparency In Service Delivery And Citizen Centric E-Governance

Shagufta Aman

Under the motto, 'Technology is Our New Ideology,' the Khyber Pakhtunkhwa's two-time elected Pakistan Tehreek-e Insaaf (PTI) provincial government is undertaking a number of key governance reforms focused on digitizing public service delivery in various provincial government departments. This research attempts to investigate how digitization is affecting bureaucratic efficiency, transparency and inclusivity in public service delivery in education and health and what impacts are resultantly generated on organizational culture. Further, whether digitalization has affected citizen's trust in the provincial government. It attempts to do so from the perspective of public service providers, i.e., the bureaucracy and end users, i.e., the public (school and college students and hospital patients). The study employs both qualitative and quantitative methods to reach its findings.

The findings of the study suggest that significant digital interventions were made by the provincial government in both education and health sectors and the Covid emergency provided a big push to digitalization of government services. These interventions are driven by the desire to generate policies based on evidence-based data and to optimize efficiency, transparency and accessibility of services. However, the ICT induced impacts on service delivery varied depending on the nature and the context of digitization interventions, which resultantly had differing results. In the context of most notably the education sector, for example, access to online tele-learning services were limited by student's economic background and paucity of funding, inhibiting IT infrastructure in public schools. Most of the health and education e-initiatives focus on registering online complaints, applying for e-transfers, online admissions, or printing online forms, which makes it a managerial type of government, as Chadwick and May suggest, measures that steered towards greater government control and less public participation in policy making. Additionally, the propensity of significant groups being left out, either due to the non-availability of resources, such as computers, internet, feedback booths or accessibility being limited to ICT literate population only, leaves the aspect of biased data a greater possibility. Since there is very little political deliberation and discussion in a 'cyber virtual civil society' group, therefore,

the prospect of ICT governance being 'participatory' is even less visible. The findings also suggest that ICT induced transformations in bureaucracy's organizational culture in terms of its values, expectations and practices also gives rise to bureaucratic resistance and skepticism of ICT introduced reforms. Such limitations may prove a big stumble in the Khyber Pakhtunkhwa government's vision to provide speedy, efficient, accountable, and inclusive services to the public.

Cost-Benefit Analysis Of Parallel Education Streams In The Public Sector

Muhammad Jehangir Khan

In this study, we tried to assess the Islamabad Model Colleges and Cadet Colleges on three dimensions: in producing earning benefits, in producing better academic grades, and in getting things done. For this purpose, we applied a mixed-method approach to compare both streams of education. This implies that this study has approached the research problem from both quantitative and qualitative dimensions. In the quantitative domain, we covered the Cost-Benefit Analysis (CBA) and Pooled Regression Analysis (PRA). Whereas in the qualitative domain, we focused on comparing the delivery approach of both school systems.

The cost-benefit analysis has shown that investment in both streams is beneficial for the economy in the long run. However, considering the cost to the government only, the cadet colleges are producing more benefits than Islamabad Model Colleges, while considering the overall cost (including cost to the government, private cost, and opportunity cost) Islamabad Model Colleges are slightly ahead of cadet colleges not because higher-earning but because of lower private cost. On the other hand, Pooled regression analysis showed that Cadet colleges are producing higher academic grades than Islamabad Model Colleges. Further in this study, we found that, currently, the delivery approach of cadet colleges is relatively better than the delivery approach of Islamabad Model Colleges, however, in the last few years FDE has taken some admirable steps to strengthen its education delivery system.