



BEYOND CODE AND CONTROL: REIMAGINING TECHNOLOGY IN URBAN PAKISTAN FOR COLLECTIVE EMPOWERMENT

Hamza Sarfraz

The integration of technology into Pakistani urban lives is no longer a distant possibility, but an inevitability. The question then is how to make it work for us. Today, in Pakistan, 80 percent of the population has access to cell phones. The internet usage has gone from 18 million in 2013 to 87 million in 2023. At the same time, technological solutions—with use-cases in a variety of sectors including education, transport, banking and finance, logistics, and public sector services—have developed an entire infrastructure and market ecosystem of their own. For a country with a growing population and rapid urbanisation, technologies are slowly becoming the norm, instead of a disruption.

It is tempting to assume that these technologies are objectively the best solution to our increasingly complex set of problems. There is this utopian notion that, with the right set of code and design, we can begin to deal with challenges that traditional politics and business practices have failed to address. But this idealistic fram-

ing often seems to forget, or even erase, the very crucial recognition that technologies are not just technical products – they exist beyond the contexts in which they are created and put to use. In their conception, development, and implementation, they are as much a social phenomenon as they are technical works. For us, it is therefore important to find ways to ensure that these technologies provide collective benefit and incur minimal costs on our urban fabric.

Making technology for people is just one aspect of it. Market and service-design research already addresses that problem, with varying levels of success. This article argues that we might have a broader conceptual problem in how we envision our urban lives in the increasingly technologised world. The rapid pace of ‘development’, which has often been implemented top-down and at-scale via both state and non-state projects, has skewed our understanding of how any technological solution has a social reality of its own. Instead, we tend to think

of them as total systems of control which can help us quantify, automate, and optimise human experience across a wide range of services. Even more troublesome is the prevalent misconception that these solutions can be and are developed by technical experts who can model the urban experience of Pakistan to produce value-neutral products, bereft of any lingering political, cultural, social, and ideological substratum.

This notion of technology as a panacea for urban challenges is further complicated when we examine the implementation of popular technological solutions like FoodPanda and InDriver in Pakistan. These platforms, while innovative, often fall short in capturing the true rhythms, flows, and realities of the cities they aim to serve.

Take FoodPanda, for instance. Its algorithm, designed for efficiency and scale, relies on data that simplifies the rich culinary landscape of Pakistani cities into a series of binary choices and ratings. This approach, while convenient, strips away the layers of cultural and social interactions that define the food experience in urban Pakistan. The data fails to capture the informal food vendors, the seasonal specialties, and the communal aspects of dining, which are as crucial to understanding the city's food culture as the restaurants listed on the app.

Similarly, InDriver's reliance on GPS and standardised mapping data presents a skewed picture of urban geography. The app's data model is ill-equipped to account for the fluid and often informal nature of Pakistani cityscapes. It overlooks the uncharted alleyways, the evolving neighborhoods, and the organic traffic patterns that are a staple of these cities. Consequently, the app's representation of the city is not just incomplete; it's a distorted simplification that fails to reflect the actual flow and rhythm of urban movement.

The concerns extend beyond service limitations to the very conceptualisation of 'data' by these platforms. Data privacy issues, while significant, only scratch the surface of the problem. The deeper issue lies in how these technological solutions define and utilise data, often constraining our understanding of the city to what can be quantified and measured. This reductionist approach to data overlooks the rich, layered aspects of urban life that defy categorisation into easy metrics.

Moreover, digital governance initiatives like SafeCity, which aim to map Pakistani cities through specific lenses, reveal another dimension of this challenge. These projects, often driven by state or private interests, tend to model cities based on conceptions, attitudes, and objectives. This modeling is not neutral; it aligns with James C. Scott's notion of 'seeing like a state', where the purpose is more about controlling and regulating populations than genuinely understanding or serving them. As a result, these technological solutions, rather than being

contextually relevant tools for Pakistani cities, become instruments of a top-down vision of urban management.

The intent of this discourse is not to exoticise or romanticise the intricate tapestry of Pakistani urban life, with its vibrant informalities and complexities that defy simplistic technical models. Rather, it is to underscore a fundamental truth: the very complexity that seems elusive to current technological frameworks is central to the functioning and identity of Pakistani cities. Recognising and embracing this complexity is not just a theoretical exercise; it is a crucial step towards designing technological solutions that are truly reflective of and responsive to the realities of urban Pakistan.

At the heart of this challenge is the need to rethink how we conceptualise and implement technology in urban settings. The prevailing approach, which often prioritises efficiency and scalability, tends to view cities through a reductive lens. This perspective reduces the rich, chaotic, and dynamic urban life into neat, quantifiable metrics. However, the true essence of Pakistani cities lies not merely in these metrics, but in the myriad interactions, transactions, and relationships that form the urban fabric. These elements are often informal, unstructured, and fluid, eluding the grasp of conventional data models.

To truly capture this complexity, technological solutions must evolve beyond their current paradigms. This evolution involves a shift from a top-down approach, where technology dictates the terms of engagement, to a more inclusive and participatory model. Such a model would not only gather data from traditional sources but also actively seek out and incorporate insights from the ground – from the people who navigate these urban mazes daily. It means engaging with local communities, understanding their needs, their routines, and their perceptions of the city. This approach acknowledges that the residents themselves are the most authentic source of information about urban experiences.

The integration of local community insights into the fabric of technological design is not just an issue of inclusivity; it's fundamentally a question of power and politics. The decision-making process behind the design, implementation, and control of these technologies is far from neutral. It is deeply rooted in the dynamics of power and governance, often skewed in favor of those who hold the reins—the state and those who hold the access to resources. This top-down model of technological development does more than just overlook local perspectives; it actively perpetuates existing power imbalances, often to the detriment of those communities that the technology is supposed to benefit. This scenario underscores a critical need: to challenge and reshape the power dynamics in technological development, ensuring that it becomes a tool for empowerment and equity,

rather than an instrument of exclusion and control.

To shift this paradigm, it is imperative to recognise and address the political nature of technological development. This means challenging the status quo on technological innovation in Pakistan and advocating for a more democratic and participatory approach to technology design and implementation. It involves creating spaces where local communities are not just passive recipients of technology but active contributors to its development. This participatory approach is not just about listening to community feedback; it's about empowering these communities to have a tangible impact on how technologies are conceptualised, designed, and deployed. Such a shift requires a rethinking of the power dynamics inherent in technological development. It calls for policies and frameworks that facilitate the involvement of local communities at every stage of the technological lifecycle.

Ultimately, the goal is to democratise the process of technological development, ensuring that it serves the collective interests of the community rather than the narrow interests of a powerful few. By doing so, we can create technologies that are not only more contextually relevant and effective but also more equitable and just. At its heart, it is a political question where we need to renegotiate not just how power is distributed, but also who gets to act on that power. Only then can we hope to develop technologies that truly reflect and enhance the diverse tapestry of urban life in Pakistan. Otherwise, dystopian conceptions of totalised technological systems, detached from the realities of the populations they presume to serve, may be the other possibility that we are forced to grapple with.

The author is a policy researcher and speculative fiction writer interested in cities, education, history, development, and storytelling. He tweets at @wingsforus and can be reached at hamzasarfraz1@hotmail.com.

