IDDRI
DÉVELOPPEMENT DURABLE & RELATIONS INTERNATIONALES

SciencesPo

N° 05
SEPTEMBER
2018

POLICYBRIEF

The digital transition of developing cities in 6 steps

Laure Criqui (IDDRI)

The digital transition is a challenge for actors in both the Global North and Global South. For many developing cities the "smart city" is still a chimera. International technological models, whether idealised or unattainable, are somewhat at odds with the realities of urbanisation in countries of the Global South. Be it applications for on-demand waste collection, participatory mapping of precarious neighbourhoods, incubators and informal fablabs, online citizen media, etc. (Criqui, 2017), the effects of digital technologies are particularly strongly felt in the ways private actors and individuals use them, outside the realm of public action.

As local authorities in the Global South know little about the possibilities and modalities for implementing a digital transition specific to contexts of a fast-paced urbanisation and limited capacities, they may find themselves overwhelmed. Yet, digital tools provide opportunities to renew urban management and put it more in touch with on-the-ground realities. What is needed is a new way of running projects and local policies with and for digital tools so as to drive sustainable and inclusive urban development.

KEY MESSAGES

The uses of digital technology by private actors and individuals, even on a relatively unregulated basis, must be considered as an opportunity and a resource to build on.

Introducing digital tools into urban management is a transition process, and thus supposes managing human and institutional change, particularly for resource-strapped cities.

The authorities must develop a strategy (objectives, resources, partnerships, etc.), applying a learning approach, so that digital tools become embedded in the local political culture and practices.

Digital tools make it possible to acquire better knowledge of cities and thus better inform policy. It depends on and leads to greater transparency, collaboration and accountability, to which the authorities must be committed.

The local authorities can use digital tools as a means of enhancing their legitimacy and capacity for action, with support from thematic networks, donors and through peer learning.

1. THE CHALLENGES AND OPPORTUNITIES OF DITIGAL TOOLS FOR CITIES IN THE GLOBAL SOUTH

For some ten years now, we have seen a keen interest in the "smart city". However, cities in the Global South are confronted with specific dynamics: first, massive, informal and fast-paced urbanisation and, second, limited public resources. In this setting, public action is struggling to meet all of the social needs. As a result, interstices are appearing, zones of informal activities where the digital sector is positioning itself: private platforms, start-ups and social enterprises are developing autonomous services (apps listing informal bus lines, participatory mapping of precarious neighbourhoods, etc.). Here, it is less a market-led disruption of policy, as is the case in the Global North, but more the structuring of a parallel business sphere outside the scope of public action.

This gives rise to challenges that are more political than technical. And a sort of "lag", compared to third-party digital innovations, may arise for local authorities. This may emerge in the form of private urban services that use information and communication technologies (ICTs) (on-demand transport, pay-as-you-go waste collection, privatisation of maps and data production…) and substitute local authorities. Moreover, the authorities may find themselves overwhelmed by a civil society—NGOs, universities, "civic tech"—that makes use of digital tools to bring to light new needs and meet alternative social demands. Facing this pressure, the authorities may turn to engineering or consulting firms that sometimes apply over-sophisticated technical models (control centres, drones) which are ill-adapted to the territories. Poorly equipped, local authorities then find themselves in a situation of dependency that could further deepen their "lag".

Yet, digital technology offers local authorities an opportunity to develop and improve their urban policies. Turning this technology to their advantage would enable them to come to grips with the reality of their city: young people's practices, company innovations, social demands, as well as informal activities. In fact, informal sectors are often off the radar screen of public policymaking in the Global South. With digital technology, however, they appear on maps and in databases; the ways in which the residents use their city is thus revealed. Better informed, policies can then deal with the whole urban fabric, be it formal or informal, and thus gain relevance and legitimacy. Yet, this presupposes upstream political recognition of these dynamics.

However constrained public action may be, and especially in developing cities, simple, low-cost and open-access solutions exist (a social network page, simplified geographic information system, public digital spaces, etc.). Digital tools also make it possible to compile urban databases (land status, precarious neighbourhoods, craft industries, etc.), dematerialise and thus facilitate administrative procedures (for both individuals and often-overburdened officials), and improve the efficiency of urban management (increased fiscal revenue and reduced corruption and management costs thanks to automation). Opportunities for technological leapfrogging, for example, in managing vital statistics, land registries or tax collection, can free up margins of manoeuvre for urban policies in the Global South.

AVOIDING THE DIGITAL DIVIDE

In cities with many vulnerable residents, digital initiatives need to fully ensure that the devices implemented are suitably adapted and can be appropriated by each and every citizen. Be it a matter of access—installing public Internet kiosks—the design of user-friendly interfaces for the illiterate, or mediation to familiarise citizens with the new tools, specific measure must be taken to ensure the digital inclusion of the most vulnerable residents.

2. CRAFTING A DIGITAL TRANSITION STRATEGY

Local authorities often lack knowledge about what already exists on their territory and about the potential of ICTs, especially in developing cities. As with any strategy, methodology helps to adapt the action to the operational context. Applied to the digital transition, such methodology can be broken down into six key steps for cities in the Global South (Criqui *et al.*, 2018).

2.1. Clarify collective expectations

Moving from the promise of the "smart city" to the reality of digital technology requires clarifying what objectives should be pursued. Digital technology changes the availability of information on the city and the modes of communication among local actors. A local authority has to steer its digital solutions towards the goals of sustainable urban development: is the priority to increase economic performance, facilitate citizen participation, preserve natural resources, promote the inclusion of precarious neighbourhoods? And how will this be achieved: by generating data, giving local communities fora where they can be heard, dematerialising procedures? The smart city models offer no precise answers to these questions; it is, in fact, a policy choice to be negotiated at a local level.

2.2. Produce a diagnosis of the territory's digital maturity

Local authorities are seldom directly responsible for digital regulation, but they need to know the national regulatory and institutional framework, the digital operators and market conditions so as to be able to position themselves. Data on the territory's digital penetration rate can be collected locally by identifying existing databases, locally used applications, other spaces where new entrepreneurs meet… This rapid diagnosis should make it possible to estimate whether the territory's digital transition is in its early stages, in which case the main challenge will be one of access; mature, which will mean building on the existing situation to spur innovation; or advanced, which then entails the challenge of keeping apace of with digital advances.

2.3. Map the local digital ecosystem

As sources of innovation and data-holders, digital actors operating on the territory can become allies in moving the transition forward. To achieve this, the authorities need to contact not only official telecommunications operators, but also start-ups and emergent spaces. What's more, if the motivation of traditional

private businesses, NGOs or universities and their appetite for these new solutions are known, the incentives required to gain their collaboration can be identified. Establishing partnerships around data and digital services is indispensable for innovation to emerge and for local actors to genuinely contribute to and use the solutions developed.

2.4. Start with pilot actions

Digital technology is particularly well-suited to running pilot projects with a limited geographical, sectoral and intervention scope. Following this logic, much more than a territorial digital plan, innovations need to be improved incrementally, through trial-and-error, before going to scale. Testing devices with users and adopting an experimental approach means moving away from traditional public planning processes, but in practice this is more affordable, particularly in situations where resources are limited. When socio-urban situations differ widely, as in developing cities, this approach also means that beneficiaries can be targeted according to their needs.

2.5. Define a realistic roadmap for scaling up

It is not therefore a question of inventing a local digital policy from scratch, but promoting local innovations. Rather than intervening directly, local authorities in the Global South that rely on digital tools position themselves as guarantors and promoters of urban innovation: fostering simple technologies available on smartphones (SMS early warnings in case of a natural disaster) and third-party initiatives that attract investors (creation of incubators for start-ups or organisation of hackathons). The authorities must nonetheless set standards adapted to the territory and, as far as possible, drive innovation through public procurement.

2.6. Monitor and communicate on the digital transition

Finally, if digital solutions are to be appropriated, mechanisms to ensure transparency and accountability cannot be left aside. Progress needs to be monitored continuously, using clear and measurable indicators that can help to redirect efforts depending on user feedback. In addition, a communication strategy to raise awareness and provide compelling evidence of the relevance and utility of the developed services needs to mobilise all possible channels (radio, mediation though NGOs, etc.) in order to reach the target populations in line with their degree of familiarity with digital tools. This is crucial to ensure that the majority of people buy in to the new services so that public initiatives become fully relevant.

3. IMPLICATIONS FOR THE LOCAL GOVERNANCE OF DIGITAL TECHNOLOGY

Embarking on a digital transition, particularly when municipal resources are constrained, as is the case in developing cities, thus supposes a political and administrative change in how public policies are managed. Local resources and actors need to be mobilised: the traditional private sector, start-ups, universities, NGOs and the general public have digital resources (data, infrastructure), human resources (technical skills, ideas for solutions), economic resources (identification of market demand), and social resources (community associations) that are well worth coordinating, however loosely regulated they may be. Yet, in order to lead this ecosystem, local authorities need to strengthen their own digital capacities.

An internal administrative transformation

Experiences in the use of digital tools in developing cities make it possible to pinpoint several key factors.

- Strong political support is decisive: be from the mayor or a local digital "champion", the change described above has to be led with a clear and controlled vision of experimental approaches.
- The team in charge of digital innovation must be suitably integrated into the local administrative structure. Whatever its place in the organisation chart, it must be legitimate, have political support and be capable of acting across all departments.
- Many administrative procedures can be readily digitalised and dematerialised. Again, these projects must be carried out carefully and gradually (e.g., tools for traffic fines can be expanded over several years before a full range of online administrative services is offered), so as to avoid an over-abrupt shake-up of established administrative practices.
- Moreover, one of the key mission of local authorities is to provide free and open access to a core set of public urban data and promote access to these data on a secure and easily available public platform. Treating data as a public good to be protected and shared will bring to light an unexpected reservoir of knowledge on the city—especially on its informal dimension—which will be immensely useful to public policies.
- A diagnosis of public officials' skills and appetite for digital technology is crucial to ensure their adherence to the new tools. This can then form the basis for designing an internal training programme on digital tools adapted to both the type of equipment and their familiarity with digital innovation.

3.1. A collective learning approach

Donors and NGOs can support the authorities in this process and thus lessen the latter's reliance on the digital services of GAFAM.[1] Digital technology thus needs to become a fundamental and structuring part of any technical assistance programme. Not only can skills upgrading for local authorities in the Global South be facilitated by digital technology (distance or online learning systems), but it is also a new skill in itself, a component to be mainstreamed in training on urban and financial management, and in participatory mechanisms. Upstream, this also supposes that donors and NGOs have the adequate digital tools and e-skills to share their experience.

Moreover, cities are beginning to share their digital practices among themselves. These networks help to operationalise generic smart-city models in a diversity of practical real-life situations, and open up the full range of possible uses. Although the

1 Google, Apple, Facebook, Amazon and Microsoft.

case of developing cities is still little studied, as it is still too early and innovation is moving fast, this process of peer learning is one of the most pragmatic ways for cities to appropriate digital tools and approaches.[2]

By promoting use of digital technology, local authorities can introduce new ways of making the city—ways that are more partnership-based and inclusive, more in touch with urban realities and usages. In order to keep control over these changes, what has to be accepted is that these changes inevitably go hand in hand with more transparency and accountability vis-à-vis the general public and the informal dynamics of city-making. Digital technology makes these more visible and undisputable. Getting to know the potential of digital tools on a local territory is thus a first step, but results do not come automatically and the commitment to use these tools remains a political choice. This makes it even more important and urgent for the authorities of cities in the Global South to take control of their own digital transition, so that they can steer innovative solutions on their local territory.

2 The platform **http://smartcity-guide.afd.fr/** shares its experiences with digital technology in the Global South.

REFERENCES

Albarède, M., de Feraudy, T., Marcou, T., Saujot, M. (2018). *Audacities* : Innover et gouverner dans la ville numérique réelle. Paris: FING & Iddri

Criqui, L., Jaunet, A., Barthel, P-A. (2018). *Smart city and local authorities : Leading the digital transformation (Methodological guide).* Paris: AFD & Iddri. http://smartcity-guide.afd.fr/telechargez-le-guide.html

Criqui, L. (2017). *Promises and realities of digital technologies in developing cities* (Issue Brief No. 06/17). Paris: Iddri. https://www.iddri.org/en/publications-and-events/issue-brief/promises-and-realities-digital-technologies-developing-cities

International Telecommunication Union (2016). *Shaping smarter and more sustainable cities. Striving for sustainable development goals* (TechnicalRreport). Geneva: ITU.

Criqui, L. (2018). The digital transition of developing cities in 6 steps. IDDRI, *Policy Briefs* N°05/18

This article received French government funding managed by the French National Research Agency in the framework of the Investissements d'avenir programme under the reference ANR-10-LABX-01.

This *Policy Brief* is the result of a study partnered by the Agence française de développement on digital technology in developing cities. It goes hand in hand with the guide Smart city and local authorities: Leading the digital transformation and the platform http://smartcity-guide.afd.fr/

CONTACT
laure.criqui@iddri.org

Institut du développement durable
et des relations internationales
41, rue du Four - 75006 Paris – France

www.iddri.org
@IDDRI_ThinkTank