



BACKGROUND NOTE

Build Digital Societies

Calum Cameron

DISCLAIMER

This background paper was prepared for the report *Asian Development Outlook 2020: What Drives Innovation in Asia?* It is made available here to communicate the results of the underlying research work with the least possible delay. The manuscript of this paper therefore has not been prepared in accordance with the procedures appropriate to formally-edited texts.

The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the Asian Development Bank (ADB), its Board of Governors, or the governments they represent. The ADB does not guarantee the accuracy of the data included in this document and accepts no responsibility for any consequence of their use. The mention of specific companies or products of manufacturers does not imply that they are endorsed or recommended by ADB in preference to others of a similar nature that are not mentioned.

Any designation of or reference to a particular territory or geographic area, or use of the term “country” in this document, is not intended to make any judgments as to the legal or other status of any territory or area. Boundaries, colors, denominations, and other information shown on any map in this document do not imply any judgment on the part of the ADB concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

BUILD DIGITAL SOCIETIES

Calum Cameron¹

Estonia's digital society is entering its third generation. From e-Tax, to e-Health, education, and i-Voting, services are mostly connected, efficient, and frictionless. 99% of public services are online. The electronic identity (eID) ecosystem alone creates an estimated 2% lift in national productivity. But, as digital society pioneers, Estonians had no model to follow. They had to experiment their way to success. In doing so, they developed a local pool of talent that continuously innovates public services.

Estonia's progress offers key lessons for newly digitizing societies. The fundamental principles of digital society are universal. It takes time (and that is a good thing). The sustained benefits of doing it yourself outweigh any perceived advantages of outsourcing.

A. The Seven Principles of Digital Society

The principles of building a digital society are the same in Estonia, the People's Republic of China, Singapore, and everywhere else. Their execution and use depend on the values and culture of each society, but each of these principles is fundamental.

1. **Universal internet access.** A critical mass of citizens needs reliable, high-speed internet access for engagement and trust in the services and government.
2. **Strong digital identity.** A strong digital identifier, or digital name, that is used by both public and private sectors allows citizens to access services and establish ownership of their data.
3. **Data interoperability.** Infrastructure and incentives are needed for government agencies to securely share data so that services can be automated.
4. **Trust.** People should be confident that their data is protected, and its use is transparent.
5. **Privacy and protection.** People must know who has access to their data and the agency to control it.
6. **No legacy.** All significant applications and services must be refreshed regularly so that they include the latest security and usage features. In Estonia, 13 years is the maximum life span for such services.
7. **Continuous development.** People should be engaged constantly with new features and positive surprises.

B. Transformation Takes Time

National digital transformations take time. They are socio-political projects. Public and private sector service delivery becomes more effective and efficient, but only with a significant increase in access to

¹ Calum Cameron is a Digital Innovation Consultant at Proud Engineers. This note is background for the Asian Development Outlook 2020 theme chapter on *What Drives Innovation in Asia?*

citizens' data. Maintaining trust is crucial. Many in the public sector will also resist changes to their existing institutions. So sustained and consistent political will and citizen engagement are essential.

For example, two key pillars of Estonia's digital society took up to 7 years to become relevant. Both cases spanned multiple governments.

Electronic identify (eID) was rolled out from 2002. Everybody was able to authenticate online and sign documents with contractual force. But it was not until 2007 that a critical mass of users and services meant digital signatures became the norm.

X-Road is Estonia's national data interoperability solution with over 650 public and private institutions connected, offering over 3,000 services. Implemented in 2001, it was not until 2007 that the solution was used extensively.

C. Do the Hard Things Yourself

Countries develop domestic capabilities and innovation cultures by solving hard problems themselves. Digitizing a country presents a smorgasbord of challenges like identifying who is behind a device, privacy, and who owns the data. Experts who have created success elsewhere can help with these challenges, but only help because most solutions will be unique to a society. Adaptations from a working model, but nonetheless unique.

It is tempting to outsource these challenges to multinational consultancies. These projects tend to fail or at least underwhelm. The hard things about digitalizing society have only been solved in a few countries, and normally by local companies working closely with government agencies. Large consultancies rarely have hands-on experience with successful digital society projects. Import international expertise, but invest in local talent.

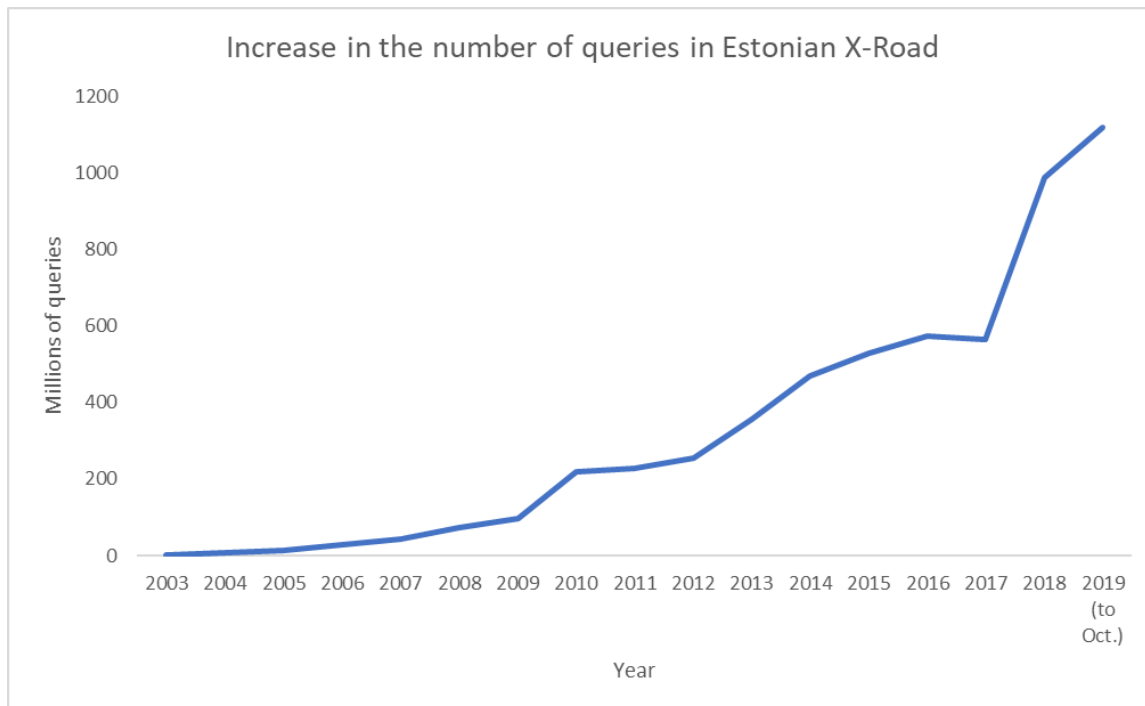
Estonia was lucky it was so small and poor that it had no choice but to build everything itself. By experimenting, the government, academics, and the private sector gradually developed the digital society skills and solutions that work. Because they were learning, changes arrived incrementally which allowed a critical mass of society to stay engaged, adopt the solutions, and increasingly demand more.

D. Implications for New Transformers

On re-independence in 1991, Estonia aspired to return to its Nordic roots. But the country was bankrupt, had limited natural resources, and with a small population of just over one million people. Copying the analogue models of government used by Sweden et al. was not an option.

Estonia committed to pioneering digital government and leapfrogging its wealthy neighbors. What it learned is relevant to ambitious countries across Asia. Most important is that transformation takes time, so the national vision must be shared and committed to across the political spectrum. Time is also an opportunity to build trust with society. The other is to take transformation as an opportunity to invest in local talent: they will become the engine for sustained national innovation and growth.

The following figure illustrates the increase in the number of queries using X-Road in Estonia from deployment to 2015. In 2019, over one billion queries will be made.



Source: Republic of Estonia Information System Authority. <https://www.x-tee.ee/factsheets/EE/#eng>, <https://moodle.ria.ee/mod/book/view.php?id=334&chapterid=142&lang=en>.