Luxembourg as a Smart Nation

The Digital Lëtzebuerg initiative will be leading the way

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Introduction

The best and most successful approach to building a strong, viable digital agenda ensures that strategy is at the center of such an agenda. In fact, first of all, get the digital strategy right by prioritizing it and be clear and realistic about where you can make a real difference. Secondly, as this is a "digital" agenda, you need to put technology very high on your priority list. The choices are numerous, and getting this point right will determine most structural aspects of implementation. Thirdly, make sure you have the right digital leadership, which understands the possibilities of this new paradigm and has a clear inclination to get things moving.

Digitalization on the level currently possible is perhaps the largest disruptor we have seen in history, but most definitely the one combined with the highest velocity of change. The possibilities are (almost) endless, but as changes happen at such great speed the possibility that your strategy itself will be disrupted is high. Consequently, you need to have a modular and flexible approach, which can be swiftly adapted and re-aligned to any new situation. Your strategic approach itself must be "agile".

Smart Nation—definition for this article and its scope

A smart nation is a nation that develops clear value propositions for where and how the nation shall compete, by creating visionary strategies to make these propositions possible and realistic, and at the same time keeping a keen focus on how the nation is investing and spending its resources.

This article will focus on digital leadership and on what is needed for Luxembourg to join the club of nations for which ICT and digitalization is the driving force for growth. That is, the focus is on consumerization of public services and what the drivers for this consumerization are, as well as what it means for the digital strategy and what these disruptive services might actually be.

Luxembourg is currently not a leader in the digitalization movement. Other countries have made digitalization their priority for years and built their national GDP growth on this. Though Luxembourg is not a first-mover, there is ample room to change the status quo and the Digital Lëtzebuerg initiative is now creating the right momentum propelling Luxembourg towards the front-row.

Drivers for e-Government and consumerization of public services

The underlying technology forces making this mega shift possible are "social", "mobile", "analytics" and "cloud". These forces are able to make entirely new industries and change existing sectors completely. If we consider geo-spatial technology, the widespread demographic change underway worldwide and the changing demands of socially conscious citizens, we see that there is a strong case for modification and consumerization of public services.

The ability to attract and develop excellent talent emerges as the most critical component of national competitiveness. As such, governments lower political barriers (taxes, social security, and immigration requirements) to welcome a new class of global workers. This is certainly a necessity in Luxembourg, but something we as a nation have done for many years. Global demand for skilled workers, coupled with a choosier creative class, has led to new forms of global mobility, including short assignments, reverse transfers and virtual mobility (working in the cloud). Nations attempt to steer the flow of top talent to areas of critical need and terms such as "global citizen" and "global community" assume larger places in personal identities.

Cities are getting bigger as more and more people choose to live in a city. Early innovations in green building seen in the first decade of the 21st century have become the norm, reshaping the construction industry and creating entirely green cities that are not only sustainable, but resilient, giving rise to advances such as zero-energy home building, rooftop farming, and

permeable pavements. Sensors and wireless networks are increasingly being used to create smart cities and improve sustainability metrics.

Bringing digitalization of public services with a focus on citizen digital experience is essential, but internal process optimization targets must also be aligned

In order for public services to be able to manage and be ready for these changes—which are inevitable—there are several areas to cover. When transforming the public sector, "policy and regulatory aspects" must be ensured. With the introduction of national changes and the EU directives, some of the hurdles are being removed.

However, interaction with citizens must be the focus of any public services transformation and at all times take center stage. This is where the "user experience" comes into play and priorities for service development must be aligned.

For these digital public services to work well and not result in huge and impossible internal workloads, services must be re-engineered and streamlined to make them as efficient as possible. Many countries are already focusing on such internal aspects and rolling out aggressive plans for digitalization and use of ICT. Imagine that a new front-end system has been implemented, making a digital citizen interaction possible, with a nice Graphical User Interface (GUI) available on both e- and m-channels (web and mobile channels). Behind the scenes of the specific public administration however, no changes were made to accommodate this new service but due to the changes in the citizen interface, the administrative personnel actually need additional steps to process the adapted workflow. If this is scaled up to the entire public administration, workloads will become impossible to cope with and delays in processing incompatible with a digital agenda. Moreover, the public services would need additional resources, buildings, and education, etc.

The ability to attract and develop excellent talent emerges as the most critical component of national competitiveness

This is an example of how national infrastructure might be changed. With pressure increasing on limited infrastructure assets, new dynamic pricing models improve efficiency and embed two key values in the transportation system; users begin paying a direct portion of the actual cost, and prices respond to demand. The advent of mobile technology and embedded sensors make dynamic pricing possible based on variables such as time of day, road congestion, speed, occupancy, and even carbon emissions.

In San Francisco, SFpark pioneered the world's most advanced parking management system. New meters, sensors, and demand-responsive pricing made it easier to find parking in the city. Increased parking availability benefits drivers, Muni riders, bicyclists, pedestrians, visitors, residents, merchants, and more. SFpark uses demand-responsive pricing to open up parking spaces on each block and reduce circling and double-parking. Rates may vary by block, time of day and day of week. As users are paying by mobile apps and the complete system is digitalized, there is very limited new workload for public services. Some existing workload and certain issues are even reduced by using such a system. Examples like this show areas in which Luxembourg could evolve and offer improved services to citizens.

According to the EU Digital Agenda, Denmark saves taxpayers €150 million and businesses €50 million per year by investing in and implementing electronics invoicing. If a similar scheme were introduced across the EU, annual savings could exceed €50 billion.

Where does Luxembourg stand today?

According to the WEF Global Information Technology report 2015, which focuses on member states' ICT readiness through a set of 53 indicators, Luxembourg is ranked comfortably in 9th place. These indicators are not focused on e- or m-channels, or on how well services are integrated, but instead look at the political and regulatory environment (environment), the ICT infrastructure and skills (readiness), how businesses, users and governments are using ICT (usage), and the economic and social impact (impact).

What is evident from the report is that there is a clear connection between this index (NRI) and average income per capita. When the index increases, so does the income.
In 2012, Luxembourg was placed 21st but steady improvement has resulted in it climbing to 9th place in 2015. The main improvement areas listed are "government on-line services" (42nd place) and citizens" e-participation (54th place).
The EU's Digital Agenda for Europe also has a scoreboard in which Luxembourg ranks 8th out of the 28 member states. Though many scores have improved, the progress is slow, and shows clear areas for improvement. Here, "Digital Public Services" is the obvious area for attention with some additional areas for consideration. The "Integration of digital Technology" point places Luxembourg as 16th out of 28. Mainly due to this, Luxembourg is described as a medium-performer in digitalization.

According to the EU's "Future-Proof eGovernment for a Digital Single Market" report (June 2015), the existing Luxembourg digital public services have an extremely high number of average steps in the user journey as well as low use centricity. There is clearly a window of opportunity for all public service organizations in Luxembourg to change the current situation and drive a new digital strategy forward. This is directly evident from the above and should be a wake-up call for all public services to aggressively develop and drive a digital agenda. The e-Administration initiative of Digital Lëtzebuerg will potentially help advance the status of Luxembourg and its ranking.

Practical approach and priorities for Luxembourg public services

As seen above, Luxembourg is a medium performer in digitalization and in public services is even performing poorly. There are many initiatives that can and should be made for the public services sector, changing the status quo and driving digitalization and citizen engagement forward, but initiatives should be prioritized. This can be done based on impact and complexity, but considering some initiatives are "foundational" by nature, these should be the subject of immediate focus and be accelerated.

We should first mention "open government", which builds on the concept and availability of "open data". This concept increases the exchange of data, ensures connectivity between necessary parties and delivers more efficient and effective user-friendly services. Furthermore, such services have the potential to reduce administrative cost and delays in processing time. It is also about making government processes and decisions open, in order to foster citizen participation and engagement.
Open Data is also defined as a critical element of the Digital Lëtzebuerg initiative.

A second foundational initiative is "Identity and Access Management" (IAM). This is not the same as e-ID—as often mistakenly stated—as IAM is a comprehensive and holistic approach for both identity of the user as well as determining what the user should be able to access. e-ID only covers part of the basic identification of the user.
A critical component of this overall process is the ability to digitally sign documents and forms. For instance, tax returns must be signed before submission, and people getting married must sign a marriage request. A student applying for a course should sign a request, and implementation of an eHealth monitoring system should only be considered if the person to be monitored has agreed.

The EU regulation on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation) was adopted by the co-legislators on 23 July 2014 as a milestone to providing a regulatory environment to enable secure and seamless electronic interactions between businesses, citizens, and public authorities. One of the trust services defined in the regulation is e-signatures, which must be accepted throughout the EU member states and enables digital public service and processing.

The third foundational initiative relates to ICT standardization and centralization of data storage and processing, which offers economies of scale that even the largest organizations could not achieve by themselves, i.e., cloud computing. Everybody expects such clouds to be governed, secure, or offer the right level of privacy, hence governments are focusing on private clouds. However, by using cloud technologies, services that would not be obtainable otherwise can become commonplace. Imagine the effect of big data and advanced analytics on the current ICT infrastructure for most national administrations, or how the university will cope with the massive scale of compute power and storage required in the near future for research.

There are uncertainties and obstacles when moving towards a private cloud model, but trying to avoid cloud would be a mistake and is unlikely to be a successful strategy in the long run. Instead, services must use creative and innovative thinking to find new and better ways to deliver their services.

Based on the foundational initiatives, public service organizations must start the transformation of their services with the following imperatives:

- Embrace the digital disruption fully throughout all public services with a strong strategy that enables change and encourages innovation
- Ensure the citizen experience is at the forefront of everything you do and learn from the many mistakes that have been made around the world
- Embrace and enable the mobile mind-shift taking place and create "mobile moments" for citizens
- Offer creative insight-driven services, based on open data and innovation, which deliver relevant, attractive, and easy services for citizens
- Learn how to develop agile strategies and implementation roadmaps, which can change and adapt as and when required. The digital disruption is also disrupting existing processes and ways of working—make sure not to sustain the old ways of working in the new insight economy

By embracing these imperatives, the inevitable change towards a digital service model will start to take shape and the roadmap will be laid down.

Sources:
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