

Smart councils: the evolution of technology in local government



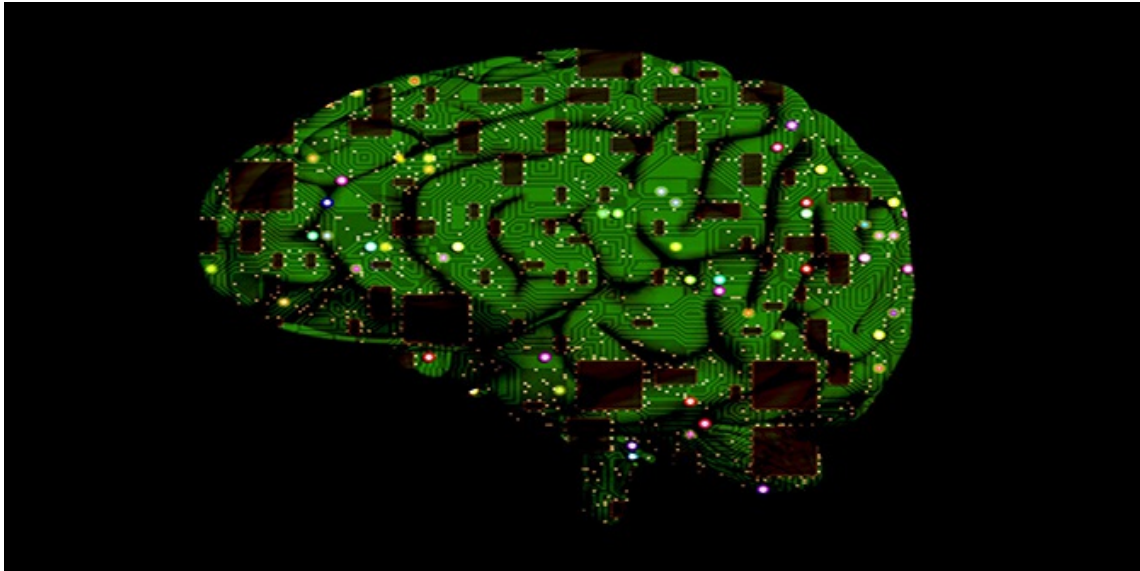
Is local government making sufficient use of technology, and is it using it well? [Uthayasankar Sivarajah](#) and [Zahir Irani](#) review the implementation of various technologies by local councils, and explain their rewards and risks.

Austerity continues to form the backdrop of UK local government. If this was not enough, councils are also trying to cope with digital disruption, having to constantly rethink not just how they operate, but fundamentally what they do. This is both a challenging and exciting future for local government authorities. It is challenging because there is an endless list of difficult and complex problems to keep tackling with limited resources such as waste management, reviving local economies, tackling unemployment, and reducing congestion. But it is also exciting in the sense that councils could become a key player in how emerging technologies can be used for the benefit of the public, which in turn leads to a greater economical and societal impact.

Some might say that the advances in web-based technology are now in the past, as everyone is talking about the rise of artificial intelligence, blockchain, wearables, Internet of Things (IoT) and its uses across multiple industries, including local government. Artificial intelligence and robotics are increasingly becoming commonplace in local government, adopted by forward thinking councils. There are already councils using virtual customer service assistants (chatbots) to handle basic queries more efficiently. The north London Borough of Enfield Council introduced [Amelia](#), robot technology dedicated to frontline council services, such as taking resident queries or authenticating licenses. The council's intention in using artificial intelligence and cognitive computing is to try to reduce the burden of administrative tasks while gaining faster access to valuable insights. In doing so, the council is empowered to make better decisions for citizens.

Another example is Aylesbury Vale District Council which has also started using artificial intelligence in limited ways, having implemented a virtual assistant system called [DigitalGenius](#). On top of the administrative efficiency gains, there is also anticipation that employees will be happier in their roles as they are no longer required to spend time on monotonous tasks and can put their skills to more strategic and creative tasks. This is exactly the kind of setting governments are hoping for: automation through machine learning algorithms will be used to allow authorities to focus on the right problems, rather than to replace human expertise.

There has also been much thinking about how [distributed ledger technology](#) (blockchain) can be used by UK local government. Let's picture this simple [proposed use case](#) of blockchain in local waste management. Imagine a scenario where councils using the concept of distributed ledger could see a transparent record of when every waste subcontractor had completed their task. At the same time, citizens or local businesses would be able to record problems, like uncollected garbage. The distributed ledger would enable citizens to register issues transparently and the subcontractor would receive an automated notification of these issues, allowing them to address the problem immediately rather than for the citizen to have to report the issue to the council. In this scenario, the application of blockchain should allow local councils to reduce a great amount of transaction costs in the delivery of local services, while also providing greater transparency and participation for citizens.



Credit: [Pixabay](#)/Public Domain.

Local councils are also being asked to come up with suggestions for how drones can address the needs and realities of urban life through a [government-backed scheme](#). The vision here is that drones are used for public benefit. For example, a drone supplied by Kent Fire and Rescue was used to survey the ruins of Grenfell Tower after its fire. As such, there could soon be fleets of drones helping the emergency services, delivering urgent medical supplies, and easing traffic congestion. The local government sector has clearly picked up the pace in embracing digital technologies where historically they have been sluggish.

Digital local government: potential consequences

While innovative use of technology is helping to reduce costs, as well as be more efficient and transparent, local councils still need to overcome the consequences of embracing such technologies. Despite the various benefits, there is general unease that the rise of artificial intelligence and robots could threaten jobs. [Reform](#) estimated that almost 250,000 public sector jobs are at risk in the light of automation over the next decade. Many similar estimates exist, even though no one really knows how the job market might respond.

Factors such as security, privacy, ethical and regulatory compliance have always made tech adoption harder in the government context. These matters pose serious challenges and must be given careful consideration. For instance, [a research study](#) of three UK local councils found that adopting technologies such as cloud computing brought several benefits, but authorities tended to make the shift too hastily leading to cyber security risks. And there are also the concerns of digital divide in limiting participation, especially of low-income and older citizens.

But it is not all doom and gloom. Going forward, local governments should continue to embrace technology, recognise the value of data in informing decision-making, introduce early interventions, and as a result reduce the risk and cost of changing practices. For these to work in practice, there is a significant need for a cultural shift in the relationship local government has with technology, recognising that technological solutions must be designed around the user, not just around the efficiency of the organisation.

Note: the above draws on the [authors' article](#) (with Steve Jones) published in Information Systems and Frontiers.

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