

# Digital transformation for prisons: Developing a needs-based strategy

Probation Journal

1–13

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DOI: 10.1177/0264550517723722

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**Abstract**

A digital revolution is upon our penal system – the inevitability of digital transformation is set to shape the way justice is done and experienced. This article identifies some important considerations for digital transformation in prison settings. There are some small yet very promising initiatives in many jurisdictions, and in these early stages of introducing digital technologies for prisoners and staff to use there are still some fundamental barriers. Therefore getting it right within the secure landscape brings further challenges for services. This article argues for prison organizations to develop their digital provision that centres the end user at the heart of their transformation.

**Keywords**

digital technology, needs-based, normalization, prisons

ICT brings many different types of people to the same 'place'; electronic media have fostered a blurring of many formerly distinct social roles. Electronic media affect us, then, not primarily through their content but by changing the situational geography of social life. (Meyrowitz, 1986)

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Meyrowitz's observations acutely remind us of how digital technologies have multiple and underestimated social consequences. The introduction of new digital technologies is likely to be one of the most important factors currently used to reshape governments in the way they are delivering their services. All over the world governments are in the midst of a historic transformation as they abandon analogue operating models in favour of digital systems. With the 'Recommendation on Digital Government Strategies', the OECD (2017) tries to enable a fundamental shift from citizen-centric approaches (government anticipating the needs of citizens and businesses) to citizen-driven approaches (citizens and businesses formulating and determining their needs in partnership with governments). The integration of new technologies into the everyday lives of people, businesses and governments creates a new digital environment, which offers great opportunities for more collaborative and participatory relationships. This allows relevant stakeholders (i.e. citizens, businesses and non-governmental organizations) to actively shape political priorities, collaborate in the design of public services and participate in their delivery to provide more coherent and integrated solutions to complex challenges (OECD, 2014). However in the context of prison organizations these developments are less visible.

There are some small yet very promising initiatives in many jurisdictions, and in these early stages of introducing digital technologies for prisoners and staff to use there are still some fundamental barriers. Therefore getting it right within the secure landscape brings further challenges for services. This article argues for prison organizations to develop their digital provision that centres the end user at the heart of their transformation.

Our rationale in writing this article is influenced by our separate experiences of digital technologies in prisons. Van De Steene was lead ICT director of the Belgian prison service and was instrumental in developing an ICT solution for Beveren, a new prison built in 2014. He is an Enterprise Architect who developed an Enterprise IT strategy for the Belgian Prison Service, which culminated in partnership with external developers, in the birth of a digital in-cell provision called *PrisonCloud*. As documented elsewhere (Knight, 2015, 2016; Knight and Van De Steene, 2017), this solution is world-leading in terms of providing a single and consolidated platform for delivering bespoke prison services to prisoners. Van De Steene now works as a consultant supporting the delivery of ICT solutions for prisons and justice. Knight has conducted a lengthy study of in-cell television in British prisons. Her work explored the sociological experiences of the users – that is, prisoners and staff. The foundations of this work naturally lead to digital developments that are beginning to emerge across the sector. Both Knight and Van De Steene's interest converged at this point and together they have begun to review and reflect on the development and introduction of digital technologies in prison and secure settings. Moreover, both authors observed how services struggle to develop effective digital strategies. This article therefore offers some direction for practitioners and policy-makers towards digitization of prisons. Although our experiences are rooted within the prison context we believe that our suggestions presented here can be useful for the wider justice sector. We propose a model – Enterprise Architecture (EA) – as a method for developing a needs-based approach to digitization. Our rationale

reflects on our assessments of digital government and how this can help prisons achieve normalization whereby the impact of prison avoids harm and helps prisoners to prepare for successful release into the community.

## **Digital government**

Digital government or 'E-Government' means much more than creating a modern society and increasing efficiency that is orchestrated through technological gateways and platforms. It includes the realization of mutual duties and responsibilities between people who govern and those who are governed in the 'digital space'. By shifting modes of social and administrative conduct across society it should in turn create a 'better government structure' (OECD, 2004). Digital modernization can indeed increase efficiency and can empower, in the case of the justice system, the offender/prisoner. It can have the promise of building relationships between a number of networks: prisoners, their families, prison staff and professional organizations. Whilst this is a taken for granted outcome to those who exist outside the walls of the prison, these relationships are one of the key contributing features of normalization. The idea of minimizing the impact and harm of incarceration means that where possible an inmate can maintain and take responsibility for their own lives and not be further damaged by the punishment of a prison sentence. Whilst this notion is not wholly relevant to e-governance per se, there is a societal responsibility to ensure all citizens can flourish. Disrupting, denying and limiting digital citizenship, which is typical of most of our prisons, limits the scope and reach of e-governance remits.

## **Normalization**

The Council of Europe's recommendation on Prison Rules states that: 'During the serving of a sentence, life inside will resemble life outside as much as possible' (Council of Europe, 2006). Thus normalization supports a humane approach to incarceration. The punishment shall be felt as a penalty, but still be executed in a way that reduces the harms of being incarcerated (Vollan, 2016). The idea of making a person worse undermines the purpose of imprisonment. Jewkes and Johnston (2009) warned us vividly of the impacts of depriving prisoners of digital technologies – rendering the average prisoner as a 'caveman' upon re-entry to society. Sustaining these endeavours to keep prisoners 'up to speed' is aligned with aspirations to avoid and minimize the disruption to their life-course. And whilst digital technologies remain limited, normal life, as we now know it, cannot be mirrored or replicated in the prison as it currently stands.

While digital has become the 'new normal' outside, prison services are still struggling to shape and use digital space to fit their needs and enable it for the offenders inside. There is encouraging evolution towards the development of digital technologies to give the offender more access to education, communications, leisure and self-development (Hinnsen, 2011). This includes technology, which can help prisons to deliver rehabilitation programmes, improve the access to healthcare

or facilitate secure communication with relatives outside. Although many technology options are already available, we see that their adoption is still at a very early stage. Where they are appearing they are small scale, limited to types of provision, localized and certainly not globally available across a whole jurisdiction's service. The majority of the current examples and implementations are still far away from what could be seen as a digital transformation. For example, the availability of off-line (and even on-line) services inside prisoners' cells is not a standardised provision – it is the opposite. Prison organizations trying to make the transformation to digital are often held back by organizational cultures and existing processes. Fear is also a driver that limits and prevents digital transformation – public acceptability is routinely professed to be of major concern to decision-makers and governmental departments. And yet there is no evidence base to validate these claims.<sup>1</sup> Addressing fear, incapacitation and normalization requires a whole organizational response.

## **Responding to the prison and its people: Enterprise architecture and design**

This overall fear has dominated the way digital technology systems have been designed and implemented to date. Technology design shares many similarities with the architectural design of modern prison facilities, which favours the incorporation of new technologies mainly as a means of increasing security and reducing operational costs (Jewkes and Reisdorf, 2016). Many facilities are therefore constructed to avoid any usage of cabled or wireless networks by the inmate. Wired data connections in living units and cells are seldom available and the use of concrete, iron and isolation materials reduces the possibility of installing wireless broadband networks, if not blocked completely by jamming or other security systems.

It is common that the availability of computer networks is limited and needs to be separated for security purposes. Computers and other electronic devices are kept to an absolute minimum and prohibited if possible. Huge investments are made to block all kinds of external threats and communications. This defensive design approach which prioritizes risk, control and cost not only limits opportunities to enable digital services inside prisons, but it also increases the costs of technology by installing often separate solutions for every conceivable threat. Moreover, this approach decentres the user and has the danger of creating a service that is not attractive, useful or even used. Alternatively, more innovative approaches in prison design need to consider how technology could facilitate the overall meanings and objectives they want to incorporate. As such, technology should not be equated with innovation (Lulham et al., 2016), but it can undoubtedly be used for it as long as its design is shaped by a broader vision on prison design, prison facility management and offender management as a whole.

Today we see that in most prison agencies – as in many other government organizations – digital technology strategy and design remain fragmented with decentralized responsibilities and many ad hoc solutions created for separate

divisions in their own small silos. Most often these siloed responsibilities are divided, as is the allocation of the (financial) means. Security systems are often purchased on a facility level and are 'product-based', which makes integration with other systems or facilities very complicated. Line of Business (LOB)<sup>2</sup> systems and applications are mostly implemented on other levels and decisions are often taken by different authorities. In many cases this has resulted in fragmented platforms (e.g. communication and self-service are available on separate and fragmented platforms). Inmate services thus become limited and costly as a result of out-sourcing to an external party. These implementations are often based on zero-cost contracts and this means the offender pays for everything, usually at premium cost, which risks pushing the entire cost of services on to the 'consumer', in this case the offender and their families. Some take the view that these costs are exploitative and in the US, for example, there has been significant lobbying to reduce the costs of basic telephone calls and video-conferencing (Doyle et al., 2011).

Enterprise Architecture (EA) is one model, which might address a range of needs. EA brings together business and technology by creating a common understanding of the vision, principles and standards that guide the purchase and deployment of technology within an organization (EABok, 2015). EA is a discipline for proactively and holistically leading enterprise responses to disruptive forces by identifying and analysing the execution of change toward desired business vision and outcomes. EA offers business and IT leaders signature-ready recommendations for adjusting policies and projects to achieve target strategic outcomes that capitalize on relevant business disruptions (Gartner, 2017). EA helps to analyse and assess the technological impact of any decision or strategy by considering the budgetary, organizational, social or environmental impact of proposed changes. Enterprise Architecture can help organizations to map the areas that would benefit from technology intervention or solutions. Based on our assessment of what is currently being made available across different prisons in different jurisdictions, the implementation of digital technology in prisons needs to be grounded and sensitive to the needs of the people using and administering it. We now go on to discuss some ideas of how prisons can utilize such an approach in developing their own digital strategy.

COBIT 5 is the world-leading overarching framework for governance and management of enterprise IT. This Enterprise Architecture Framework has been developed by ISACA, an independent, non-profit, global association, which engages in the development, adoption and use of globally-accepted, industry-leading knowledge and practices for information systems.<sup>3</sup> ISACA first released COBIT in 1996 and has continued developing the framework in close collaboration with universities and experts all over the world. The current version (COBIT 5) outlines five Principles for Effective Information and Technology Governance (ISACA, 2012):

1. It is necessary to meet the needs of all stakeholders. In the context of preparing a digital prison this would include prisoners, staff, policy-makers, prisoners' families, service providers, and the general public;

2. Ensuring the project or 'enterprise' is holistically embedded into an organization to ensure it is used to its maximum capacity by putting the focus not only on the 'IT function' but treating information and related technologies as assets that need to be dealt with just like any other asset by everyone in the organization. A device such as a tablet is a 'delivery mechanism that facilitates the delivery of services into the cell'. This mechanism should be open to be used for all other future services that need to be delivered into the cell (used to its maximum capacity). The service itself should be separated from the delivery mechanism (tablet) and be generalized so it can be delivered anywhere (on a desktop computer, a kiosk, a smartphone). The information and processes behind the service are part of an overall organizational strategy (e.g. an e-learning course should be part of an overall prison education strategy, which includes multiple learning approaches);
3. Develop a single framework and solution that is integrated into the organization and embraced by its stakeholders. This is a way to guarantee the second principle can be held on to, which is very difficult to achieve with many different and separated solutions;
4. Ensuring a holistic approach and use that generates positive outcomes for all users. Define principles and policies, set out a change management and communication strategy, or other 'enablers': anything that can help to achieve the objectives of the enterprise;
5. Recognize that management and governance of an organization are distinguished and separated out. These two disciplines encompass different types of activities, require different organizational structures and serve different purposes. Governance ensures that stakeholder needs, conditions and options are evaluated to determine balanced, agreed-on enterprise objectives; setting direction through prioritization and decision-making; and monitoring performance and compliance. Management plans should build in monitoring activities in alignment with the direction set by the governance body to achieve the enterprise objectives.

The adoption of these principles therefore needs to take into account the demands and aims of the organization and all stakeholders, consider how information is managed and produced, review how the production of data is going to be managed and secured, consider what applications or software are needed and then finally develop an ICT infrastructure that enables the support of all of this. Achieving a needs-based approach is no easy undertaking as it requires effort and some investment in engaging stakeholders and collating evidence through mechanisms such as research.

## **Developing a needs-based strategy: Using EA principles**

Taking the effort to develop a more holistic and integrated strategy towards the use of technology in prisons does not mean that a complete detailed re-design of systems is necessary or that all existing initiatives and systems should be replaced. On

the contrary, one of the main drivers to develop such a strategy is to ensure solutions support and enhance the organization's vision and remit, whilst being attentive to costs and use resources. As outlined above, the first step towards a Prison Digital Technology Strategy requires the development of core EA principles, recognized within the whole organization. The purpose of this is to guide decision-making to ensure that any intervention or implementation is viable and sustainable.

As Martinez (2014) suggests, all decision-making should attempt to include a whole range of organizational and operational features such as business objectives, economic, performance measures as well as social, cultural and legal structures. Whilst in many respects this model is very similar to other business development models, EA is particularly useful in illuminating, in the case of this wider discussion, where delivering and implementation of digital technologies in prisons should avoid a 'bolt-on' approach. Just by inserting an intervention into existing cultures, frameworks and processes can mean that the intervention may not be fit for purpose or at worst rejected by consumers, users and administrators. Hence the EA model can help to overcome tensions between a prison's main business objectives and the needs of the user. If necessary, bespoke needs-centred solutions can be implemented which are informed by the right kinds of expertise. The driver of these principles evolves from an organization's remit/vision and thus the identification of areas that would benefit from digital intervention can be tailored to meet the needs of the user (prisoners and staff). Implementation of a digital solution in one jurisdiction cannot be necessarily repeated in another. There are legal and political contexts that also shape and influence what a solution can look like and in what circumstances the user can access it.

## **A user/offender-centric approach**

Where digital government strategies focus largely on the usage of new technologies, social media and the rapidly changing mobile landscape, those new technologies deliver nothing more than new possibilities and new ways of delivering public services. Successful digital government projects have shown that it is not the use of the technology itself that makes the difference. The Belgian online tax declaration system was initially not very successful. Here the system just copied the existing paper version in a digital version. Citizens still had to search the information they needed to fill it in and manually copy this into the declaration form. The systems user interface was not really responsive and the language used was too complex. As such, the system was only beneficial for the government itself, who now received all the information in a structured way and could save on staff. The big change from a citizen perspective came with the implementation of some EA principles such as.

- The Government cannot ask the citizen information it already disposes
- The Government uses one centralized identification and authorization system for all citizens. (Fedict, 2017)

Adopting those principles, in 2007 a directive resulted in the upgrade of the Federal e-Government portal (Belgium.be) into a real citizen portal (FPS Economy, 2010). In this instance the taxpayer can have their declaration form already pre-filled with most of the information. Here they do not have to remember a separate password or username, because they can use their National ID card to login. They can choose what kind of information to receive (digital or paper), can download and print the documents related to income, taxes, and so on. They can get all kinds of information when they need it and choose what they would like to be informed about and when. By modelling this solution from an enterprise (in this instance the government) perspective, based on common principles like legislation, the approach can be focused on the citizen needs. This kind of solution is much more than a technological implementation. It has shifted the relationship between the government and the citizen. Out of the box, innovative thinking and a user-centric approach is necessary. The tax declaration example shows that the major challenge is to redesign the services rather than simply shoehorning existing processes into digital ones.

Today citizens are familiar with searching and finding all the information they need, they have the ability to stay informed, to be able to decide when, where and how to do things, to communicate fast and in real-time, to learn continuously – all of which can now be achieved through the use of digital systems and the internet. As the consumerization of digital technology has enabled many opportunities for improved communication, participation and consumer or citizen-centric service delivery outside, this model is especially pertinent to those serving time in prison. The impact of incarceration can create many modes of deprivation, which in turn render the inmate into an infant-like role, dependent on the institution for even their most basic needs (Bosworth, 2007). This paternal approach diminishes any opportunities for the prisoner to take control of their own lives. Vollan (2016) suggests how the prison could facilitate responsibility and work towards a culture of normality:

Citizens also have duties. In that respect too, the employment workshops can be training arenas: Offenders should be responsible for making appointments with their employer, like asking for permission to go to the doctor and so on. The offender should also pay bills and buy food; in short practicing in being a citizen responsible for his or her own life. This is a way of bringing the concept of a normal society into corrections, and to prepare for a safer release. (Vollan, 2016)

We argue that an EA principle is sensitive to the wider impact of incarceration and can enable the development of a business strategy to take an offender-centric approach. This could mean that a digital strategy stipulates, for example that all ICT and technical solutions should strive to maximize offender participation and facilitate a tailored and individualized management of offenders, within the recognized security limits. In these ways integrating systems and services which amplify self-care using digital technologies can prepare prisoners for their re-entry. In Finland, for example, prisoners are given prepaid cards where they can manage their own

finances, and this card can be transported, with any remaining funds, upon release (Moran, 2016).

The Finnish example could have a huge impact on all aspects of the prison organization. Implementing a digital service such as this has several benefits for the prison and the people within. If services like this feature as a portfolio of digital applications then digital engagement can, if designed and implemented properly, provide flexibility. In turn this can help to support different prison regimes, allowing inmates to move around, to take initiatives or make decisions by themselves; when to get up, go to work, go to study and contact their family. We know the opportunities are endless and thus technology needs to be designed to give an offender the possibility to access the information they need so they can take control of their own life whilst in prison. Counter to this, as Knight (2016) has documented elsewhere, technology has not only the capacity to enhance offender/prisoner autonomy, it can also provide prison services with direct levels of discretion and control and operate mechanisms of state power. Integrating a digital service for prisoners, prison services can also boost modes of surveillance (through data capture and analytics), assist with rehabilitation (through therapy such as gaming and virtual reality) and monitoring academic and vocational progress (through e-learning). All of these have the promise of assisting services with recording progress and enhancing efficiency.

## **Diversifying social relations: Boosting communication and interaction**

The strength of taking an Enterprise Approach towards technology design lies also in its avoidance of negative outcomes. Previous studies on the impacts of mass communications on prison life have identified how technology has shifted the ways in which prisoners interact. Knight (2016), for example, found that the introduction of televisions into prisoners' cells meant that prisoners were less reluctant to leave their cells. Staff also observed how they found it easier to lock people away because prisoners seemed more appeased about spending time in their cells. The cell for the first time was a much more attractive place to go. There are concerns then that staff-prisoner relationships may be compromised by technology. However, for many the deprivation of technology can alter relationships with others also, as Knight (2016) found:

...as emails now rapidly replace letters and very few people even consider letter writing anymore. I have been in the prison system for 6 years so far with another 16 to go... I am in the position where I can watch as everything changes... Some of us even find those people you grew up with or once were so close to, forget you're there because you're no longer around digitally. (Gary, prisoner)

For Gary his digital engagement defined part of his social existence; he in fact existed via his online presence. These losses of interaction both in digital and co-present terms mean that his disappearance accentuates the losses incarceration

brings about (Jewkes and Reisdorf, 2016). The point here is that interactions are complex, and in accounting for these complexities a business strategy which embraces technological services requires considered thought. As in the example of in-cell television – whilst the service in England and Wales sought to incentivize compliant behaviour by introducing a number of privileges, the service did not anticipate the social and cultural changes. With this in mind a digital strategy needs to include mechanisms for change management. It is not only the technology that has to be well designed – often the whole organization needs to be cognisant of these changes also.

## **Preparing for the digital revolution of prisons**

Successful digital government projects all over the world have shown that new technologies can be used to improve the way governments are organizing their services. A digital transformation means much more than 'going paperless': the transformation stage means that digital usages inherently enable new types of innovation and creativity in a particular domain, rather than simply enhancing and supporting the traditional methods (Lankshear and Knobel, 2008). A digital transformation of prisons is not just about inserting standalone solutions such as video conference systems or implementing a new offender management system, installing kiosks or by giving tablets to inmates. These require an organizational-wide response that considers the complexities of the impacts of technology on the environment and its people. Digital technology is considered the cornerstone of innovation. The promise that a digital solution can distinguish a service as innovative can be short-sighted, if proper planning is not undertaken. Balancing the needs of an organization's people versus the needs of organizational criteria has certainly seen how managerialist agendas skew this balance in favour of enhanced and subtle forms of power (Crewe, 2011).

In the outside world, access to technology is a commodity. This new normal has reshaped the way we act and the way we communicate. This digital revolution is still disrupting traditional businesses, human interaction and the relation between a company and its customers. E-government strategies have been developed to embrace digital technology into helping them reshape their services and the relation between government and the citizen. Technology itself does not lead to innovation or to the success of those projects. The governance of technology on a broader level is needed so all actors, policy and decision-makers are involved and engaged. Enterprise Architecture can help with the analysis of common activity and processes within and between organizations. EA principles then will guide future states and activity from an integrated viewpoint on strategy, business and technology.

The strategic objective to bring the concept of a flourishing society into prisons as well as to develop a more offender-centric approach in prisons could be translated in such a set of EA principles. Those principles need to be carried out by the entire organization to lead to a successful digital transformation. Enabling technology and

to digitally engage offenders needs much more than the device itself. As Steve Jobs, head of Apple, articulated:

Technology is nothing. What's important is that you have a faith in people, that they're basically good and smart, and if you give them tools, they'll do wonderful things with them. It's not the tools that you have faith in — tools are just tools. (Godell, 2011)

More important is the translation of an offender-centric prison policy into technology design where the offender is a user, a customer, an active participant. An EA framework is a sensible model, not only to improve efficiency and use the limited means more effectively, but most of all to guarantee and understand that every technology project is a business project and every choice has to be in line with the overall organization strategy. In this way digital technology can help in transforming prisons.

### **Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### **Funding**

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### **Notes**

1. Knight and Hadlington are currently surveying the general public about their attitudes towards the provision of digital technologies for prisoners. Results will emerge during 2017.
2. A LOB (Line of Business) application is one of the set of critical computer applications that are vital to running the organization. LOB applications are usually large programs that contain a number of integrated capabilities and tie into databases and database management systems. For prisons those applications could be the offender management system (OMS), Financial Management System, Staff Management System, Medical Record System, and so on.
3. IASCA was previously known as the Information Systems Audit and Control Association, but now only uses its acronym. Further information on the association is available here: <https://www.isaca.org/pages/default.aspx>

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