# Digitalisation and the (Unintended) Illegal Outsourcing of Legislative and Administrative Power in Denmark

Motzfeldt, Hanne Marie; Næsborg-Andersen, Ayo

*Published in:*
Proceedings of the 18th European Conference on Digital Government ECDG 2018

*Publication date:*
2018

*Document version:*
Accepted manuscript

*Document license:*
Unspecified

*Citation for pulished version (APA):*
Motzfeldt, H. M., & Næsborg-Andersen, A. (2018). Digitalisation and the (Unintended) Illegal Outsourcing of Legislative and Administrative Power in Denmark. In A. C. Ramos, & R. Bouzas-Lorenzo (Eds.), *Proceedings of the 18th European Conference on Digital Government ECDG 2018* (1. ed., pp. 135-141). Academic Conferences and Publishing International.

**Digitalisation and the (Unintended) Illegal Outsourcing of Legislative and Administrative Power in Denmark**

Hanne Marie Motzfeldt, Ayo Næsborg-Andersen
Aarhus University, Aarhus, Denmark, University of Southern Denmark, Odense, Denmark
hmm@law.au.dk,
ayo@sam.sdu.dk

**Abstract:** Denmark is far ahead in developing Digital Government. The digital infrastructure is highly developed. Automated decision-making is used on a growing scale within the areas of tax, environmental regulation and welfare. In some narrow and defined areas AI is integrated. This is not without issues, as challenges have emerged. One of these challenges is a loss of insight by the public authorities into the formation of decisions directed at citizens. This is mainly due to the outsourcing of the development and maintenance of the used technologies. As an example, the Minister of Taxation in 2014 reported to the national Parliament that the tax authorities had lost the insight into, as well as the control of, more than 200 systems used within this area of administration. Only the private suppliers of those systems possessed the knowledge necessary to describe and change the functionalities and digital decision-making. Therefore, to a certain extent power of decision-making had – unofficially – been outsourced to private suppliers. This unwanted side effect of digitalisation was, however, counteracted by the Danish Ombudsman in a recent case concerning one of the core Danish digital infrastructure components (the national NemID). In the summer of 2017 the Ombudsman stated that if private companies were to develop and operate such critical digital infrastructure, the explicit acceptance of the democratically legitimised parliament was required. This applies, even though a public procurement procedure has been performed legally correct per the Ombudsman. This paper will focus on this challenges caused by digitalisation of the public sector, the disruption of the allocation of administrative and legislative power in the national constitution. An argument will be developed through an examination of both recent literature as well as case-law from the Danish Parliamentary Ombudsman, ultimately resulting in a presentation of the current Danish solution to the challenges described above – which hopefully can inspire and serve as an input to a discussion of the relationship between private suppliers of digital services and public authorities at a European level.

Keywords: Digital Government, delegation of powers, administrative law, outsourcing, democratic legitimacy

## 1. Introduction

In 2016 Denmark ranked 9th among the world e-government leaders (United Nations Department of Economic and Social Affairs, 2016, p. 111). This is, among other factors, the result of a lengthy, deliberate transition from manual and paper-based public administration to Digital Government, which has continually caused considerable, if varying, legal challenges. Denmark is traditionally compared to Norway when it comes to administrative law, as historically the administration in these countries developed concurrently under the Danish king, before Norway gained independence from Denmark in 1814. In Norway, however, the legal scholars have done extensive research on this subject for a long while, concurrently with the technological development, and thus had influence on the digitalisation of the administration (Bing, 1986) – something which has not happened in Denmark. The situation in Denmark is therefore unique in that the digitalisation is far advanced, but has mainly happened without the influence of legal scholars. This lack of influence has had major consequences, in that many issues have not been discovered to be dealt with in time, leaving the authorities scrambling to either legalise illegal programs or shut them down entirely when they can not be made to adhere to administrative law and principles. It is therefore our hope and aim to inspire to a conversation, both among legal scholars, but also very much scholars in other fields, to discuss some of the pitfalls of the Danish approach.

This paper will focus on one of the many challenges caused by the digitalisation of the public sector, specifically the relationship between privately developed and run Information and Communications Technology (ICT) and the allocation of administrative and legislative power in the national constitution. A key player in the development of administrative law in Denmark is the Danish Parliamentary Ombudsman, who, given the lack of specific administrative courts, asserts a major influence. His role will be briefly discussed in section 2. Next, we will turn to the subject of Digital Government, starting with a definition of the term, focusing on the way the transformation to Digital Government has happened in Denmark (section 3). Other

challenges caused by this transformation have been described elsewhere, but will be summarily described here for context along with the principles governing them (section 4). Then the paper will turn to the principle of delegation of executive and legislative power to private parties, describing first the principle itself (5.1), followed by an analysis of a new opinion made by the Danish Parliamentary Ombudsman, wherein he applies the principle on a specific part of the digital infrastructure of the digital government (5.2). Finally, we will discuss the implications of this opinion (5.3) before making a conclusion in section 6.

## 2. The Danish Parliamentary Ombudsman

To fully understand the significance of the case law of the Danish Ombudsman one must bear in mind that Danish administrative law has historically developed in an interaction between supervisory authorities and the jurisprudence with the Ombudsman in the lead role rather than the courts. This is probably due to a combination of many factors such as a general reluctance towards judicial review (Wind, 2010) along with the absence of administrative courts in Denmark. Additionally, judicial review is a lengthy and expensive process, resulting in very few lawsuits against public authorities. In contrast, all citizens can file a complaint at the Ombudsman's office for free in accordance with The Danish Ombudsman's Act. As an example of the significance of the Ombudsman an influential national handbook on administrative law cites more than 700 opinions of the Danish Ombudsman and fewer than 300 rulings from the national courts (Fenger, 2014).

Consequently, the opinions of the Ombudsman are generally considered to be the main source of information on the developments of Danish administrative law with the Ombudsman clarifying already existing legislation or principles as well as developing principles further when needed, even re-formulating and adjusting them. While not legally binding, the opinions of the Ombudsman are generally followed by the public authorities and thus serve as a highly influential source of administrative law (Sørensen, 2012).

## 3. Digital Government in Denmark

Digital Government denotes the public authorities' use of ICT to carry out assigned functions (Alpar and Olbrich, 2015). In this context, it is useful to keep in mind that the development of Digital Government has had several stages, and the legal challenges have increased in complexity and impact over time. The first stage of developing Digital Government in Denmark took place from the 1970s and up to the beginning of the 1990s. During this period the Danish public authorities started to bring ICT into use, but mainly for carrying out inward administration. Electronic records and databases took over from filing cabinets and manual registers. Computers replaced typewriters and electronic messages superseded paper mail. This use of ICT is in Denmark often called 'electronic paper', signifying that the use of ICT merely lead to a replacement of paper and that the technologies used must be activated by human case officers (Motzfeldt, 2015, and Motzfeldt, 2017). In other words, this is a kind of digital administration in which technology only operates as tools for the authorities. Traditionally, this stage of Digital Government has not been the issue of scholarly debate.

The second stage of developing Digital Government in Denmark started in the 1990s and is still on-going. From the mere use of ICT as a relatively simple tool to perform administrative functions, technological advances engendered compound and complex systems. This use of technology in the public sector is often termed case-working systems, since these operating systems and their programming are based on the presumption, that administrative procedures and results, even decisions directed at the citizens, can be based on hard programming or machine learning algorithms. These technologies differ from the first generation of Digital Government in many ways, but from a legal point of view it is particularly relevant that the use of ICT in the second generation of Digital Government often involves or affects citizens directly (Schartum, 2006). In other words, ICT in this generation more directly affects outward administrative activity and has thus been the subject of more debate than is the case with the first generation.

## 4. Challenges caused by Digitalisation, and Some of the Principles Developed in Response

The first of the legal challenges caused by digitalisation is that the requirements of administrative law are often neglected when new technologies are developed for administration in the public sector. Such legally inadequate designs have previously led to the costly abandonment of purchased systems, since their use was incompatible with fulfilling the basic legal requirements of openness, documentation, public access, protection of personal data etc. (Graversen, 2015).

Second, substantial areas of the public sector have lost knowledge of, insight into and control over the technologies used, as the transition into digital administration progressed and the technologies became more and more advanced. The primary cause is that the development of the digital infrastructure of the public sector is performed by private companies, winning public procurements. Even the subsequent operation and maintenance is rarely conducted by the authorities themselves. The area of tax is one example. In 2015 the Danish Minister for Taxation had to explain to the Danish Parliament that his administration had lost control of the 200+ systems used in the area because:

*"[k]nowledge about how data and business processes, which are integrated into the IT systems, are related, is to a great extent located at SKAT's [tax authorities] providers and not with SKAT itself. Furthermore, the data and the systems are in many cases poorly documented, and thus, SKAT does not have sufficient insight into them. These structural challenges limit SKAT's possibilities of managing and controlling the development of the IT support. This also hampers outsourcing the systems, changing providers, and ensuring IT solutions are in accordance with the requirements of the relevant regulations and are flexible enough to adjust to legislative changes …"* (the Danish Ministry of Taxation, 2015).

The influential Danish Parliamentary Ombudsman has been investigating the public authorities' use of ICT since the beginning of the 1990s. Due to the many instances of unlawful administration caused by inadequate design of ICT it has been necessary for the institution to develop new principles of administrative law regulating the use of ICT in the public sector, namely the principle of administrative law by design, and the requirement of a good administration impact assessment.

The principle of administrative law by design requires public authorities to apply a value-based approach to the development and use of ICT in the public sector. Relevant legislation and unwritten principles of public administrative law should be embedded into the design of ICT used by public authorities. This should be accompanied by a Good Administration Impact Assessment; a procedure-mapping of relevant legislation and principles of administrative law as part of the development of ICT, if the technology in question is to be used by public authorities. These new principles of administrative law are developed and based on one very simple premise: Public authorities are responsible for developing Digital Government in compliance with relevant regulation and unwritten principles of administrative law (Næsborg-Andersen and Motzfeldt, 2017).

## 5. The Doctrine of Delegation

### 5.1 Introduction to the Doctrine of Delegation

The main rule in Denmark about allocation of both administrative and legislative power to private parties is that it cannot happen, except by law (Waage, 2017). The Danish constitution places executive authority in the government, not in the private sector. The national legislator – namely the government and the Parliament jointly – can grant executive powers to public authorities, thereby giving them leave to regulate or in other ways intervene in the affairs of their citizens. Any transferral of executive power to private bodies requires specific legislation allowing such delegation, per an old, fundamental principle of Danish administrative law (Loiborg and Søgaard, 2018).

Therefore executive power granted via legislation cannot be transferred from public authorities to private entities without the explicit consent of the legislator, including the democratically elected Parliament. A typical example of this issue is the question of statutory public care services for the elderly. The decision of whether an elderly person qualifies for such care may not be made by a private company – unless the relevant legislation clearly and specifically states that such a delegation of executive powers can take place. When it comes to fulfilling the decision, however, i.e. the execution of the practical matters, the authorities may contract with private companies to perform the necessary tasks without any specific legislation allowing this. Thus, a private company can provide the statutory care for the elderly citizens after the public authority has assessed the eligibility (Revsbech, Nørgaard and Garde, 2014; Bønsing, 2012).

At a first glance this old doctrine of Danish administrative law does not seem to have any impact on the organization and processes of the Digital Government, nor the way public authorities sign contracts with private providers of ICT. Accordingly, none of the legal scholars in Denmark originally paid any attention to the massive developments happening in the digital government. This changed in 2016 when a debate started,

focused on whether the national principles of administrative law set limitations for the use of such providers by public authorities. The discussion focused on cases where the ICT in question could be categorized as either a decision support system or a decision-making system (Motzfeldt, 2016a, 2016b). In 2017, however, the Danish Parliamentary Ombudsman unexpectedly published an opinion concering a case of delegation of executive power to a private provider of ICT. In the opinion of the Ombudsman this violated the principles of administrative law, as he clarified that the doctrine of delegation applies for contracting suppliers of ICT. Contrary to the academic discussion the opinion concerned neither a decision support system, nor a decision-making system, but a component of digital infrastructure. In other words, transfer of executive power may even take place in the abovementioned first generation of Digital Government, the 'electronic paper'.

### 5.2 The Statement of the Danish Parliamentary Ombudsman, 15.06.2017

#### *5.2.1 Background*

One of the factors which brings Denmark into the top-10 of the world's most digitised countries is the vastly extended public digital infrastructure promoted by ambitious government programmes (the Danish Agency for Digitisation, 2016). Firstly, public authorities predominantly communicate digitally with each other. Secondly, and more pertinent to the question of delegation, all Danish citizens are obliged to use an individual email account assigned to them in a public mail system named e-boks, through which they receive communication from public authorities, per the Danish Act on Mandatory Public Digital Mail (2016). This provision applies to everybody, unless they have been given a dispensation due to e.g. severe mental disability.

An integral part of this massive digital infrastructure is the so-called NemID (which translates as "easyID"). All citizens living in Denmark have been assigned a NemID which works as authentication and signature across multiple systems, including banks and e-boks (the Danish Agency for Digitisation, 2017).

From 2012 and onwards the previously voluntary use of e-boks to communicate with the public administration was made compulsory, and further supplemented by mandatory digital communication though self-service systems in large parts of the Danish public administration. In the areas covered by this legislation citizens are thus obliged to use web-based self-service systems for applications, documentation, reports etc. Citizens are not allowed to contact public authorities through other channels within these areas of administration, unless they apply for – and are granted - dispensation. Valid reasons for such dispensations are limited to disabilities or similar. NemID is required for accessing most these public self-service systems.

Mandatory digital self-service is mainly established by four acts from 2012–2015. To list all areas covered by these acts would be too excessive, but they range from notifications of changed residence over taxation issues to a wide range of social services. Additionally, the digitisation process has moved into areas where the number of citizens in a vulnerable situation must be assumed to be relatively high, such as application and submitting information for help related to sick leave, health allowances, several family reunification cases and complaints in the healthcare area (Consolidated Acts 1-4). Being able to access these systems has thus become paramount to a large part of the population, including some of the most vulnerable citizens.

NemID has become a key factor in the Danish Digital Government, seeing, as it is now, required for accessing both the public mail system and most self-service systems in the Danish public administration. It did, however, exist before the acts of Mandatory Public Digital Mail and digital self-service were adopted. The task of developing and operating NemID was tendered EU-wide in 2008, and a private company called Nets DanID was awarded the task. The contract between Nets DanID and the Danish Agency for Digitisation requires the issuance of NemID to happen in accordance with an OCES certification policy for personal certificates. There are no contractual clauses about adhering to administrative legislation, let alone principles of administrative law. In addition, there is (still) no legislation regulating NemID. A citizen can therefore, to take an example, have an application for a NemID rejected without any of the regular guarantees of administrative law having been applied. There will have been no adequate consultative procedure with the relevant party/parties involved, and there is no way for the citizen to gain insight into why a specific administrative decision was made (The Danish Parliamentary Ombudsman, 2017).

### *5.2.2 The Ombudsman's Examination*

As a part of his examination of NemID the Danish Parliamentary Ombudsman raised several questions with the responsible authorities (the Danish Agency for Digitisation and the Danish Ministry of Finance). Most pertinent to our discussion here is the question of whether the Agency agreed with the Ombudsman's assessment that a transfer of executive power had taken place, and if so, whether such transfer was in accordance with the principles of national administrative law, specifically the doctrine of delegation.

Initially, the authorities responded that there had been no transfer of executive power to Nets DanID, since the agency considered the assistance provided by the company to be entirely comparable to the practical assistance provided to elderly citizens mentioned above. The Ombudsman disagreed with this assessment, pointing out that NemID had evolved from being entirely voluntary into an integral and mandatory part of the Digital Government in Denmark. Therefore, according to the Ombudsman, it has become critical for citizens to be in possession of a NemID in order to even be able to contact major parts of the public sector. Accordingly, NemID should be considered a part of the executive functions of the public administration and should also be regulated in the same way.

### *5.2.3 Conclusion*

The authorities ended up agreeing with the Ombudsman. Considering the vulnerability of many of the citizens in question, and in recognition of NemID being a critical component of the infrastructure allowing access to public service, the authorities acknowledged the need to establish a clear legislative framework of responsibilities and rights in relation to NemID. Subsequently, the authorities promised to initiate a legislative process, thus providing the democratic legitimacy for the construction (the Danish Parliamentary Ombudsman, 2017).

This opinion regarding NemID, and particularly the proceedings leading up to the opinion, show that the old doctrine of delegation has adjusted to the digital era. Hence, depending on the importance and impact of a given technology, the mere use of a given technology can be comparable to transferring executive power to a private provider of ICT. Important factors in this consideration is the need for keeping the executive power under democratic control and secure that the public authority in question retains both control, insight, knowledge, and, not the least, instructional authority.

It is important to note here that the procurement procedure through which Nets DanID was awarded the contract was done properly, as also noted by the Ombudsman. Thus, the problem lay not with the procurement itself, but with the fact that the authorities had not properly considered the fact that outsourcing NemID would, in fact, entail the transfer of executive power to a private company (the Danish Parliamentary Ombudsman, 2017).

This opinion assesses the use of ICT referred to as 'electronic paper' or first generation of digital administration in section 3. However, the statement clarifies that the Danish doctrine of delegation also applies in the digital era. Thus, the doctrine also regulates public authorities' pursuance and use of ICT in the second generation of Digital Government as well. The implications of this are analysed immediately below.

## 5.3 Analysis of the Significance of the Doctrine of Delegation for Digital Government

The underlying idea of a decision support system or a decision-taking system is that the cases are processed partly or wholly within and by the system. Thereby, logically, the design and programming of the technology in question will influence the processing and outcome of the cases handled by the system. It may even be argued that the legal status of affected citizens is determined once the programming is completed. For example, compliance with the citizens' rights of access to information will depend on the design and programming of the system. When it comes to specific regulation, the outcome of the case will depend on the design of the algorithms determining how much a person must pay in taxes, what kind of day-care is assigned etc.

Naturally, the impact of design and programming is most evident when decision-making systems are used. The Norwegian researcher, Dag Wiese Schartum, describes the development of such technologies as "a separate type of legal decision-making process" which he names "legal system decisions," characterising this development as exercising public authority (Schartum, 2011). Decision support systems may, however, also

have an impact, although the significance will depend on the degree of manual control of the system's calculations, assessments etc.

The question will be then how the Danish doctrine of delegation affects the collaboration of public authorities with the private companies charged with providing decision support and decision-making systems for the public sector. An obvious starting point would be to divide the development of such systems into stages. In theory, the above-described Good Administration Impact Assessment can be separated from the part of actual programming (section 4). Provided the programming is based on a thorough and detailed impact assessment and the public authority in question has taken full responsibility for this mapping of relevant regulation, programming itself appears to be of lesser importance from a legal perspective. The determination of the citizen's legal status will happen during the impact assessment mapping out the regulation. If the requirement for legal expertise being available throughout the developmental and operational process is complied with as well, no legal issues will be assessed, nor determined by the programmers. If this condition is fulfilled, programming may legally be considered a technical-practical intermediary connecting the (detailed) abstract interpretation of relevant regulation in the impact assessment with the specific classification happening, when the fully programmed system handles specific cases. Such ideal situations could be considered to contain no transfer of executive power.

It is, however, difficult to see how public authorities can safely, both formally and materially, vouch for the administration being in accordance with the law and retained with a public authority, if the authority has neither the insight into, nor the possibility of controlling the programs forming the decisions made towards citizens. Therefore, from an administrative law perspective, public authorities must retain real insight into and knowledge of the functions of decision support and decision-making systems. If there is no such insight into and possibility of controlling the system, the doctrine of delegation must be considered violated. In the Danish public administration decisions directed at citizens cannot be generated in a non-transparent and uncontrollable way, only known by private companies proving ICT.

In conclusion, private providers of ICT can be entrusted with the development of decision support and decision making systems on behalf of public authorities, per the principles of Danish administrative law. However, such outsourcing must be either specified by law or founded on detailed interpretations laid down in a Good Administration Impact Assessment authorized by the public authority, which intends to use the technology in question. Furthermore, to formally, as well as in reality, vouch for the system's handling of citizens' affairs, insight into the functions of the system and possibility of control must be ensured.

## 6. Summary

It is a fundamental and pan-European mindset that constitutions vest public bodies with executive power. These bodies are to administrate the designated powers in accordance with the legislation regulating their activities, and it follows that transferring such powers to organizations outside the administration could raise grounds for concern. Consequently, the possibility for transferring executive powers to private organisations is limited in Denmark, as in most European countries, due to the unwritten principles of administrative law. Decision-making and coercive power, or other activities by which the citizen is impacted substantially, can therefore only be transferred to private bodies with the explicit acceptance of the democratically legitimised parliament through unambiguous legislation.

Under certain circumstances, for the first generation of Digital Government (electronic paper), this entails a demand for a statutory provision to outsource development and utilization of ICT to a private company. This only applies, however, when the technology has an exceptional impact on the citizens.

With respect to the second generation of digital administration – decision support and decision making systems – the development of such systems may be tendered to private providers. The outsourcing is, however, contingent upon the programming of each decision-making part of the system being based on detailed interpretations made in a Good Administration Impact Assessment, thoroughly reviewed and approved by the Public authority intending to use the technology in question. Furthermore, to be able to vouch for the system both formally and materially, the authority must ensure control via contractual provisions allowing full insight into all functions of the system.

The above-described adjustment of the old doctrine of delegation should counteract the current challenge of loss of knowledge, insight and control over the technologies used by public authorities in Denmark. This is of increasing importance, since the technologies in use are becoming ever more ubiquituous as the systems become more and more advanced and are used more extensively.

## 7. References


Alpar, P. and Olbrich, S., 2015. Requirements and Modelling of Processes in e-Government. *Electronic Journal of e-Government,* 3(3), pp. 107-116.

Bing. Jon, 1986. Rettslige aspekter ved datamaskinbaserte forvaltningssystemer, *Nordisk administrativt tidsskrift*, 67, nr. 1, pp. 9–23.

Bønsing, S., 2012. *Almindelig forvaltningsret.* 3rd ed. Copenhagen: Jurist- og Økonomforbundets Forlag.

Consolidated Act 1: *Lov nr. 588 om ændring af lov om Det Centrale Personregister, lov om dag-, fritids- og klubtilbud m.v. til børn og unge, lov om folkeskolen og sundhedsloven.* Copenhagen: the Danish Ministry of Finance.

Consolidated Act 2: *Lov nr. 622 om ændring af forskellige lovbestemmelser om ansøgninger, anmeldelser, anmodninger, meddelelser og erklæringer til offentlige myndigheder.* Copenhagen: the Danish Ministry of Finance.

Consolidated Act 3: *Lov nr. 552 om ændring af forskellige lovbestemmelser om ansøgninger, anmeldelser, meddelelser, anmodninger og erklæringer til offentlige myndigheder.* Copenhagen: the Danish Ministry of Finance.

Consolidated Act 4: *Lov nr. 742 om ændring af forskellige lovbestemmelser om ansøgninger, anmodninger, meddelelser og klager til offentlige myndigheder.* Copenhagen: the Danish Ministry of Finance.

Fenger, N., 2014. *Forvaltningsloven med kommentarer.* Copenhagen: Jurist- og Økonomforbundets Forlag.

Graversen, Mathilde. 2015. Skat skal udskifte 200 IT-systemer. *Berlingske online*, Available at https://www.b.dk/nationalt/skat-skal-udskifte-200-it-systemer [Accessed 13 03 2018].

Loiborg, E. and Søgaard, J.K., 2018. Offentlige myndigheders delegation af myndighedsudøvelse ved digitalisering af den offentlige forvaltning. *Ugeskrift for Retsvæsen*. U2018B.90, pp. 90-98.

Motzfeldt, H.M., 2016a. Udvikling af it-løsninger: og delegation og digital forvaltning. *Juristen,* 98(1), pp. 31-39.

Motzfeldt, H.M., 2016b. Tilsyn med sagsbehandlende it-løsninger – om den digitale forvaltnings hyldevarer. *Nordisk Administrativt Tidsskrift.* 93(2), pp. 17-33.

Motzfeldt, H.M., 2015. Den danske ombudsmands krav om værdibaseret design af den digitale forvaltning. *Nordisk Administrativt Tidsskrift,* 92(3), pp. 8-23.

Næsborg-Andersen, A. and Motzfeldt, H.M., 2017. Regulating E-Government in Denmark. *Proceedings of the 17th European Conference on Digital Government.* Academic Conferences and Publishing International, pp. 104-109.

Revsbech, K., Nørgaard, C.A. and Garde, J., 2014. *Forvaltningsret – sagsbehandling.* Copenhagen: Jurist- og Økonomforbundets Forlag.

Schartum, D.W., 2006. Elektronisk forvaltning som utfordring for forvaltningsretten. In C. Henrichsen, ed. 2006. *Forvaltningsretlige perspektiver.* Copenhagen: Jurist og Økonomforbundets Forlag, pp. 581-620.

Schartum, D.W., 2011. *Fra lovtekst til programkode – utvikling av rettslige beslutningssystemer i elektronisk forvaltning.* [pdf] Available at: http://www.uio.no/studier/emner/jus/afin/FINF4001/h11/Fra%20lovtekst%20til%20programkode%202011-1.pdf [Accessed 28 08 2017].

Sørensen, J. S., 2012. Sidste Led I Borgernes Retssikkerhed. *Politiken,* 27 April, p. 7b.

The Danish Act on Mandatory Public Digital Mail (2016). Copenhagen: The Danish Ministry of Finance.

The Danish Agency for Digitisation, 2017. *NemID*. [online] Available at: <https://www.digst.dk/it-loesninger/NemID [Accessed 23 08 2017].

The Danish Agency for Digitisation, 2016. *Digitaliseringsstrategien 2011-2015.* [online] Available at: https://www.digst.dk/Strategier/Digitaliseringsstrategi-2011-15 [Accessed 23 08 2017].

The Danish Ministry of Taxation, 2015. *Skat ud af krisen – et oplæg til politisk samling,* p. 5. [pdf] Available at: http://www.skm.dk/media/1263581/Skat-ud-af-krisen.pdf [Accessed 28 08 2017].

The Danish Ombudsman's Act 2013. Copenhagen: The Ministry of Justice.

The Danish Parliamentary Ombudsman, 2017. *Redegørelse NemID.* [online] Available at: http://www.ombudsmanden.dk/find/nyheder/alle/nemid/redegoerelse/ [Accessed 28 08 2017].

United Nations Department of Economic and Social Affairs, 2016. *United Nations E-Government Survey 2016* - E-Government in Support of Sustainable Development. [pdf] Available at: http://workspace.unpan.org/sites/Internet/Documents/UNPAN97453.pdf [Accessed 28 08 2017].

Waage, Frederik. 2017. *Det offentlige som procespart – Forvaltningsrettens virkning i civilprocessen*. Copenhagen: Karnov Group.

Wind, M., 2010. The Nordics, the EU and the Reluctance Towards Supranational Judicial Review. *JCMS: Journal of Common Market Studies,* 48(4), pp. 1039–63.