UiO : University of Oslo

IN5431 – spring 2023

IT governance and governmental platforms

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Learning outcome

- Know the basic challenges of IT governance
- (Governmental) platforms: what are they for? – with examples

Agenda

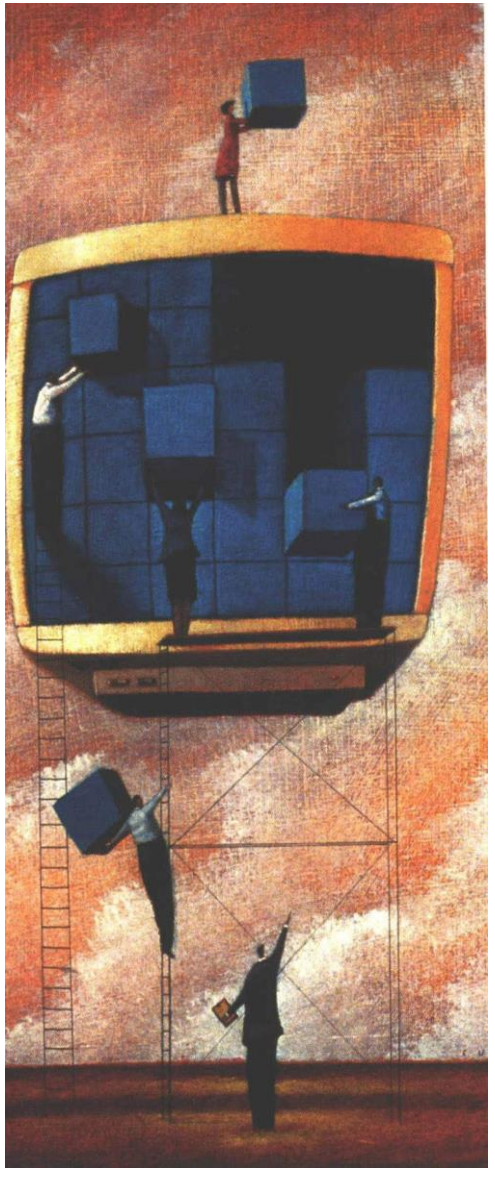
- IT governance
- Governmental platforms

IT governance

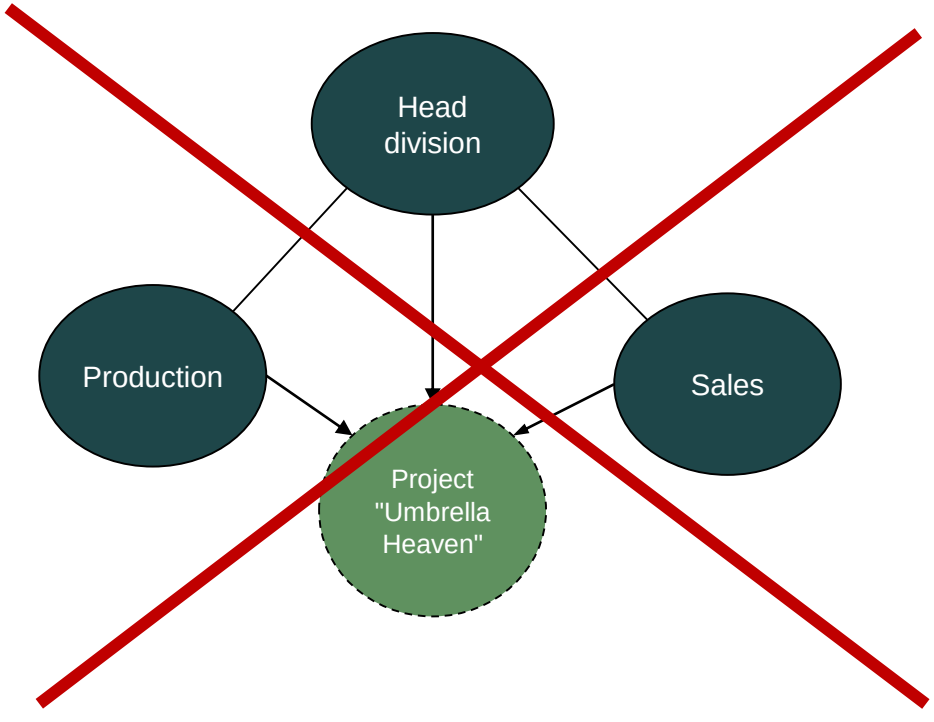
IT governance

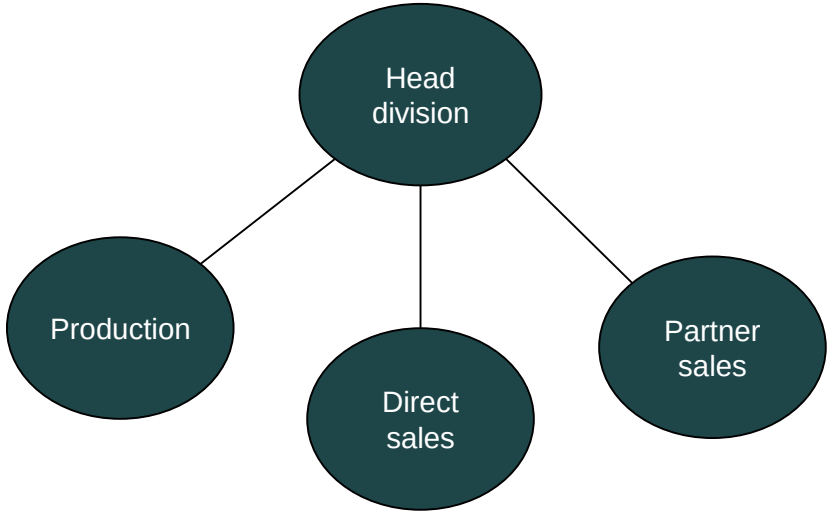
Effective governance aligns IT investments with overall business priorities, determines who makes the IT decisions and assigns accountability for the outcomes.

Weill, & Ross, J. (2005). A Matrixed Approach to Designing IT Governance. MIT Sloan Management Review, 46(2), 26.



Recall from lecture February 06: Goodumbrellas may choose to establish a new «Direct sales» division to be responsible for Umbrella-Heaven.com

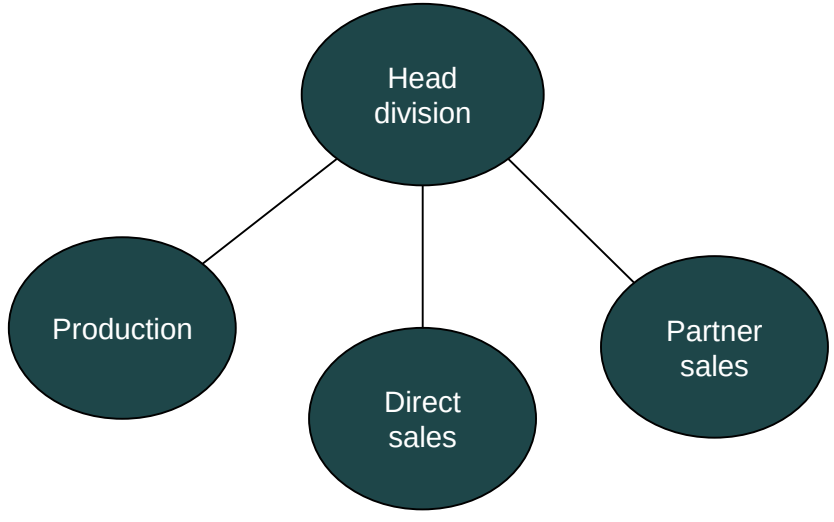




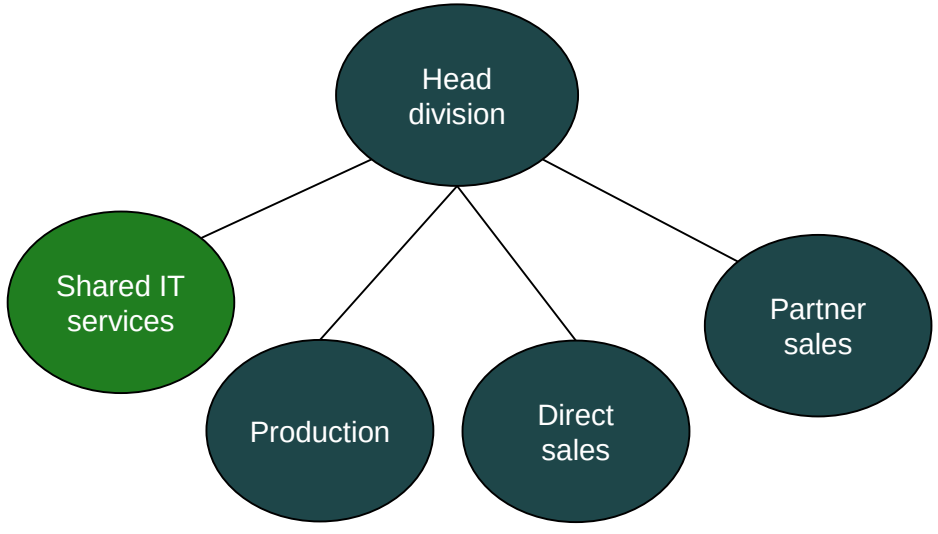
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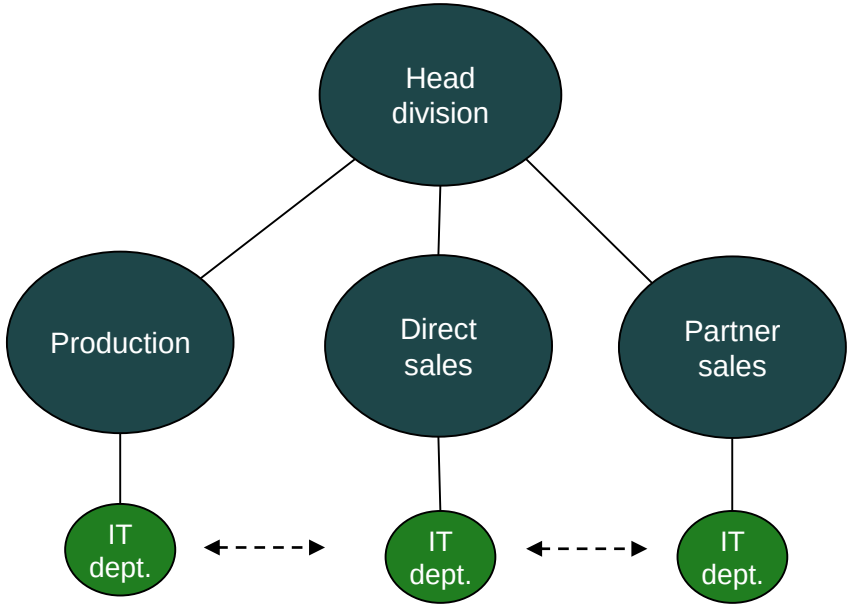
Soon, Goodumbrellas realize:

Each of the divisions spend considerable time and money on IT procurement and management. Still, division leaders struggle to prioritize IT adequately



Two (among several) alternatives





Alternative A
Create a shared IT services division

Alternative B
Require each division to establish an IT department

Categories of important IT decisions

IT Principles	■ How do the business principles translate to IT principles that guide IT decision making? ■ What is the role of IT in the business? ■ What are desirable IT behaviors? ■ How will IT be funded?
IT Architecture	■ What are the core business processes of the enterprise? How are they related? ■ What information drives these core processes? How must this data be integrated? ■ What technical capabilities should be standardized enterprisewide to support IT efficiencies and facilitate process standardization and integration? ■ What activities must be standardized enterprisewide to support data integration? ■ What technology choices will guide the enterprise's approach to IT initiatives?
IT Infrastructure Strategies	■ What infrastructure services are most critical to achieving the enterprise's strategic objectives? ■ What infrastructure services should be implemented enterprisewide and what are the service-level requirements of those services? ■ How should infrastructure services be priced? ■ What is the plan for keeping underlying technologies up-to-date? ■ What infrastructure services should be outsourced?
Business Application Needs	■ What are the market and business process opportunities for new business applications? ■ How are strategic experiments designed to assess success? ■ How can business needs be addressed within architectural standards? When does a business need justify an exception to a standard? ■ Who will own the outcomes of each project and institute organizational changes to ensure the value?
IT Investment and Prioritization	■ What process changes or enhancements are strategically most important to the enterprise? ■ What is the distribution in the current IT portfolio? Is this portfolio consistent with the enterprise's strategic objectives? ■ What is the relative importance of enterprisewide versus business unit investments? Do actual investment practices reflect their relative importance? ■ How is the business value of IT projects determined following their implementation?

Weill, & Ross, J. (2005). A Matrixed Approach to Designing IT Governance. MIT Sloan Management Review, 46(2), 26.

Six *archetypal approaches* to IT decision making, ranging from highly centralized to highly decentralized

Archetype	Description
Business monarchy	the most centralized approach--a senior business executive or a group of senior executives, sometimes including the CIO, makes all the IT-related decisions for the enterprise.
IT monarchy	decisions are made by an individual IT executive or a group of IT executives.
Federal system	C-level executives and business representatives of all the operating groups collaborate with the IT department. This is equivalent to the central government and the states working together.
IT duopoly	a two-party decision-making approach involves IT executives and a group of business leaders representing the operating units.
Feudal system	business unit or process leaders make separate decisions on the basis of the unit or process needs
Anarchy	the most decentralized system, in which each individual user or small group pursues his, her or their own IT agenda

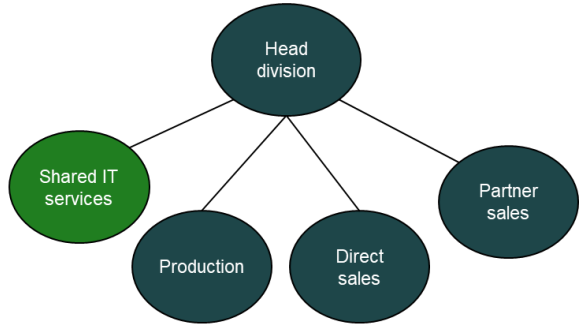
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	PERFORMANCE		
	PROFIT	ASSET UTILIZATION	GROWTH
Strategic Driver	Profitability via enterprisewide integration and focus on core competencies	Efficient operation by encouraging sharing and reuse	Encourage business unit innovation with few mandated processes
Key Metrics	ROI/ROE and business process costs	ROA and unit IT cost	Revenue growth
Key IT Governance Mechanisms	■ Enterprisewide management mechanisms (e.g., executive committee) ■ Architecture process ■ Capital approval ■ Tracking of business value of IT	■ Business/IT relationship manager ■ Process teams with IT members ■ SLA and chargeback ■ IT leadership decision-making body	■ Budget approval and risk management ■ Local accountability ■ Portals or other information/ services sources
IT Infrastructure	Layers of centrally mandated shared services	Shared services centrally coordinated	Local customized capability with few required shared services
Key IT Principles	Low business costs through standardized business processes	Low IT unit costs; reuse of standard models or services	Local innovation with communities of practice; optional shared services
Governance	**More centralized** **E.g., Monarchies and Federal**	**Blended** **E.g., Federal and Duopoly**	**More decentralized** **E.g., Feudal arrangements; risk management emphasis**

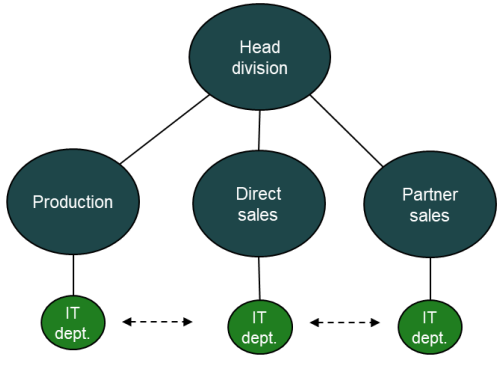
Weill, & Ross, J. (2005). A Matrixed Approach to Designing IT Governance. MIT Sloan Management Review, 46(2), 26.

Excercise:
assuming an important goal is to grow
the amount of business from direct sales (i.e., umbrella-heaven.com) – which, among the two alternatives, is the best?

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	PROFIT	ASSET UTILIZATION	GROWTH
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Alternative A
Create a shared IT services division



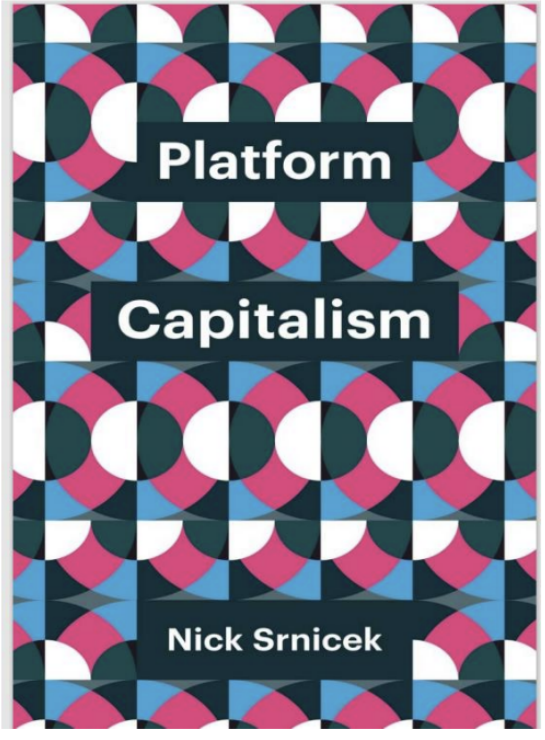
Alternative B
Require each division to establish an IT department

Government as a platform

- National government is a large, complex organization
- How to approach IT governance in the (national) government is an interesting challenge – with no clear solution

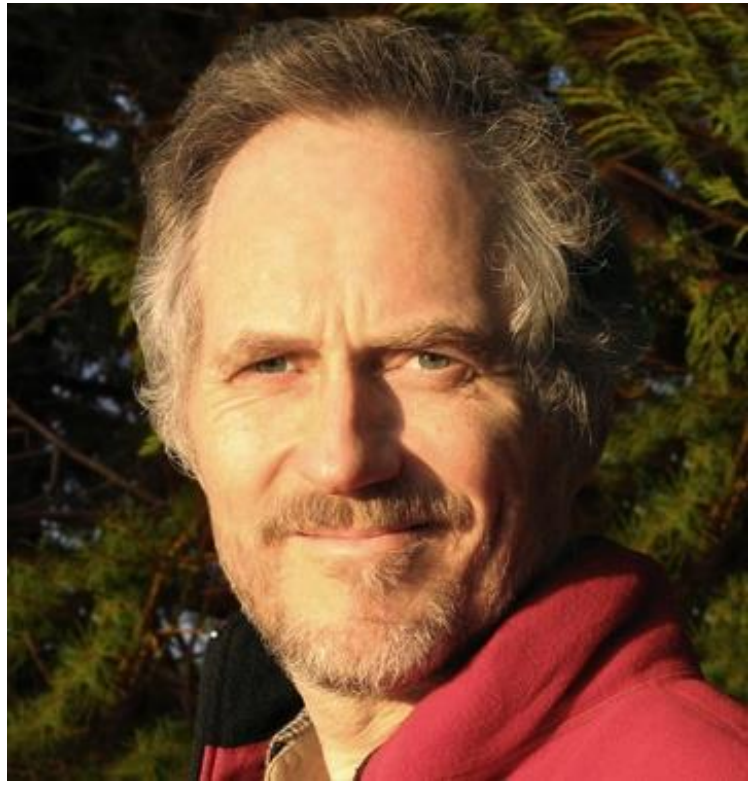
Characteristics of Platforms (Srnicek)

- Platforms are digital infrastructures that enable two or more groups to interact
- Network effects: the more numerous the users who use a platform, the more valuable that platform becomes for everyone else.
- Platforms often use cross-subsidization
- Platforms are also designed in a way that makes them attractive to its varied users
- Platform, in sum, are (can be) a new type of firm



Government as a platform

- Information produced by and on behalf of citizens is the lifeblood of the economy and the nation
- Government information and services can be provided to citizens where and when they need them. Citizens are empowered to spark the innovation that will result in an improved approach to governance.
- In this model, government is a convener and an enabler rather than the first mover of civic action.



Tim O'Reilly

Source: "Government as a platform", 2011
https://www.oreilly.com/library/view/open-government/9781449381936/ch02.html

Practical Steps for Government Agencies

1. Issue your own open government directive.
2. Create “a simple, reliable and publicly accessible infrastructure that ‘exposes’ the underlying data” from your city, county, state, or agency.
3. Build your own websites and applications using the same open systems for accessing the underlying data as they make available to the public at large
4. Share those open APIs with the public
5. Share your work with other cities, counties, states, or agencies.
6. Don’t reinvent the wheel: support existing open standards and use open source software whenever possible.
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11. Sponsor meetups, code camps, and other activity sessions to actually put citizens to work on civic issues.

Source: "Government as a platform", 2011
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How is this in Norway (or other countries you are familar with?)



"Democracy is slow" (Blixa Bargeld, Einstürzende Neubauten)

Practical Steps for Government Agencies

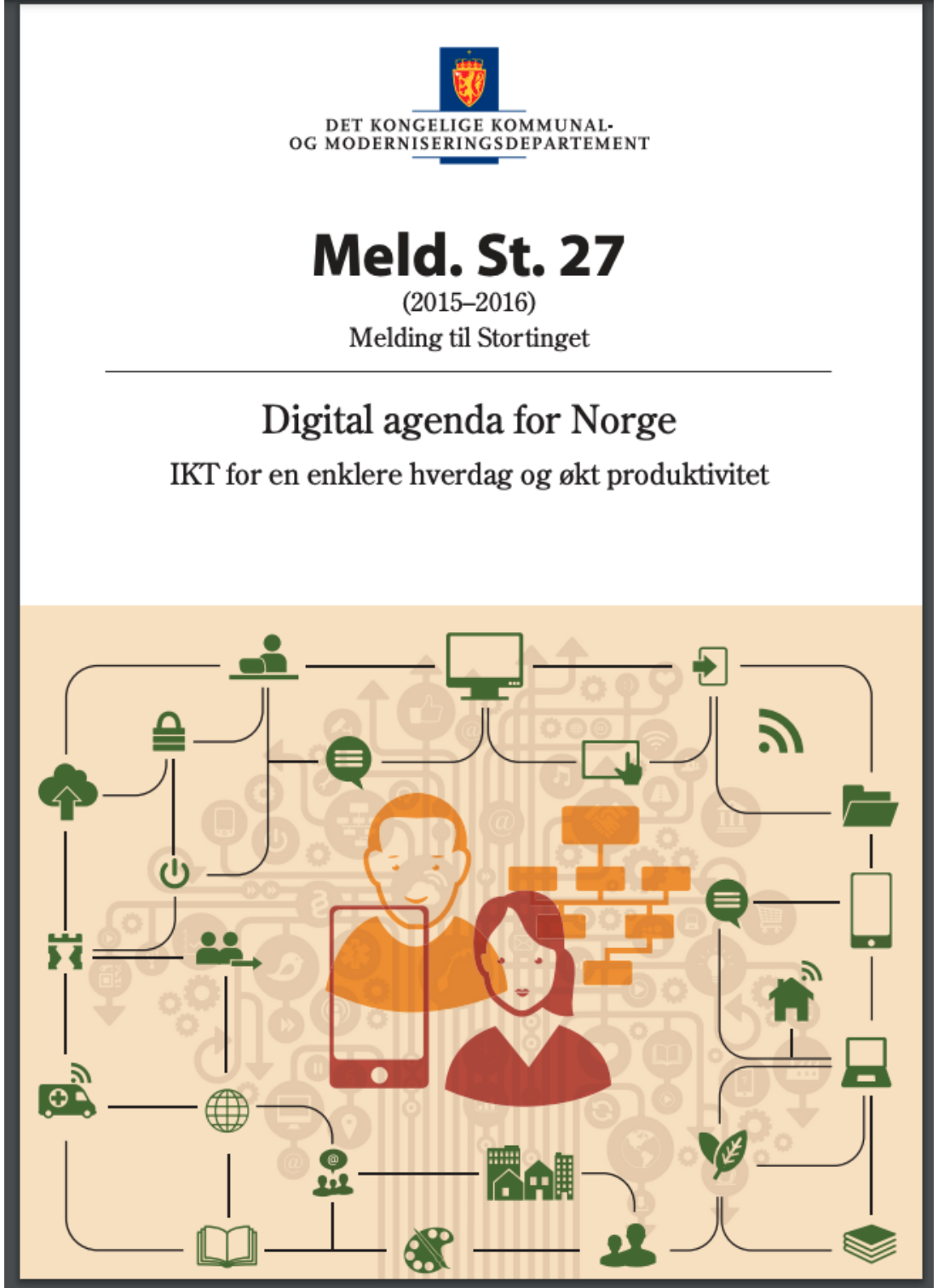
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However...

The government will:

- Make some changes to [the necessary laws to simplify data sharing]
- Develop strategies and action plans for increased access to data (...)
- Follow up the requirement for machine-readable format through a revision of the "Guidelines for making public data available"



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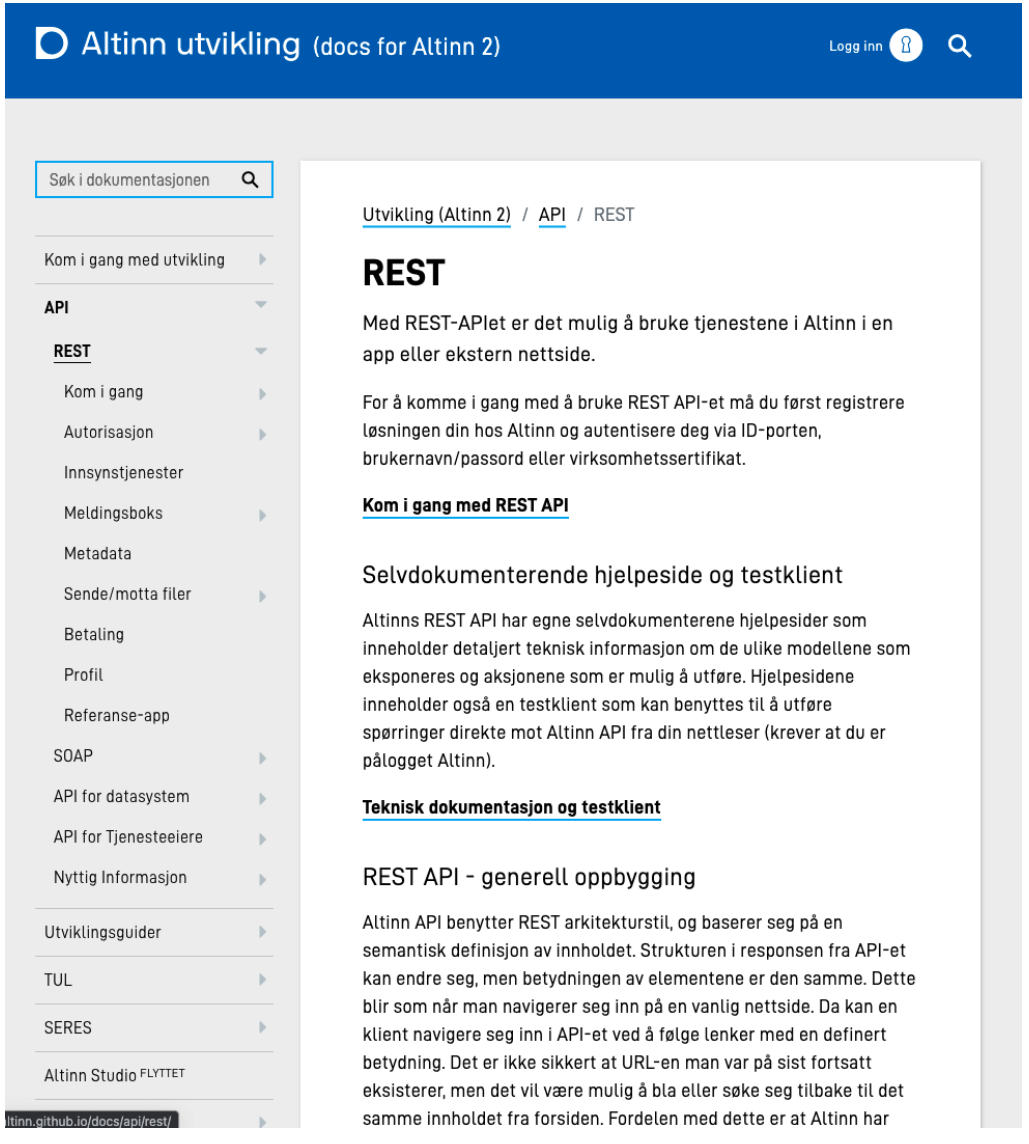


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Source: "Government as a platform", 2011
https://www.oreilly.com/library/view/open-government/9781449381936/ch02.html


Altinn utvikling (docs for Altinn 2)
Logg inn
Søk i dokumentasjonen
Kom i gang med utvikling
API
REST
Kom i gang
Autorisasjon
Innsynstjenester
Meldingsboks
Metadata
Sende/motta filer
Betaling
Profil
Referanse-app
SOAP
API for datasystem
API for Tjenesteeiere
Nyttig Informasjon
Utviklingsguider
TUL
SERES
Altinn Studio FLYTTET
Utvikling (Altinn 2) / API / REST
REST
Med REST-APIet er det mulig å bruke tjenestene i Altinn i en app eller ekstern nettside.
For å komme i gang med å bruke REST API-et må du først registrere løsningen din hos Altinn og autentisere deg via ID-porten, brukernavn/passord eller virksomhetssertifikat.
Kom i gang med REST API
Selvdokumenterende hjelpeside og testklient
Altinns REST API har egne selvdokumenterene hjelpesider som inneholder detaljert teknisk informasjon om de ulike modellene som eksponeres og aksjonene som er mulig å utføre. Hjelpesidene inneholder også en testklient som kan benyttes til å utføre spørringer direkte mot Altinn API fra din nettleser (krever at du er pålogget Altinn).
Teknisk dokumentasjon og testklient
REST API - generell oppbygging
Altinn API benytter REST arkitekturstil, og baserer seg på en semantisk definisjon av innholdet. Strukturen i responsen fra API-et kan endre seg, men betydningen av elementene er den samme. Dette blir som når man navigerer seg inn på en vanlig nettside. Da kan en klient navigere seg inn i API-et ved å følge lenker med en definert betydning. Det er ikke sikkert at URL-en man var på sist fortsatt eksisterer, men det vil være mulig å bla eller søke seg tilbake til det samme innholdet fra forsiden. Fordelen med dette er at Altinn har

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NYHETER STATENS KARTVERK INNOVASJON INNOVASJONSLØFT RINGERIKE

– Dette blir Ringerikes svar på Oslo innovation week



Storsamling: Innovasjon engasjerer! Foto: Statens kartverk

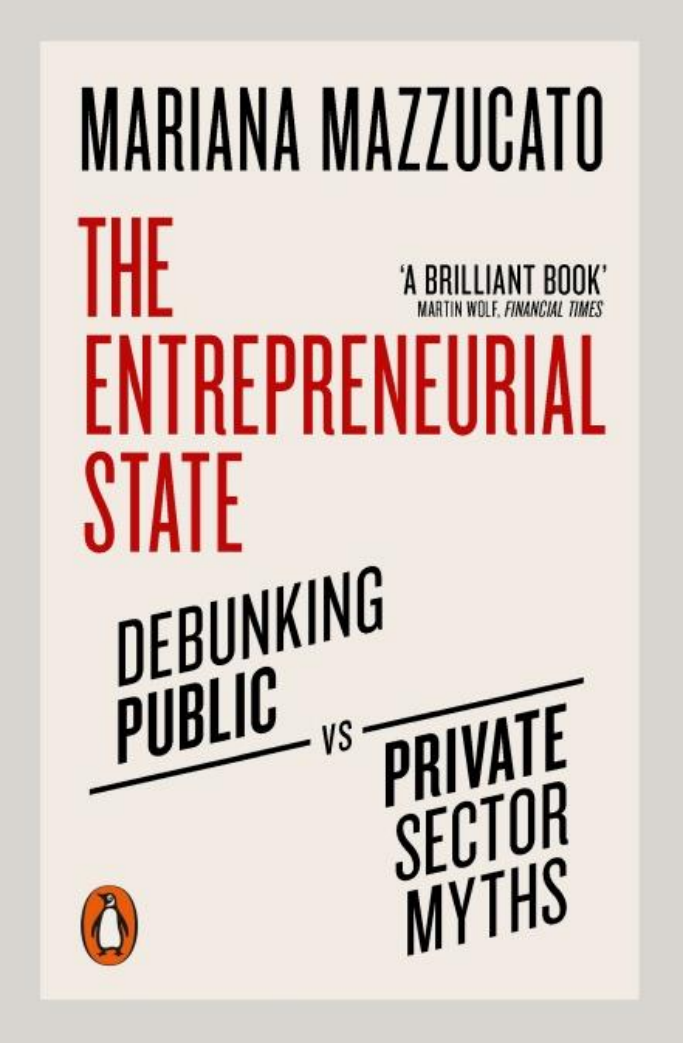
Av Mette Eriksen

Publisert: 10.10.17 11:28

Del

Artikkelen er over 4 år gammel

Ideer, design, koding og lek står i sentrum når Kartverket, Høgskolen i Sørøst-Norge og i alt 14 statlige etater inviterer til idékonkurranse, hackathon og kodesamling i Hønefoss i slutten av oktober.



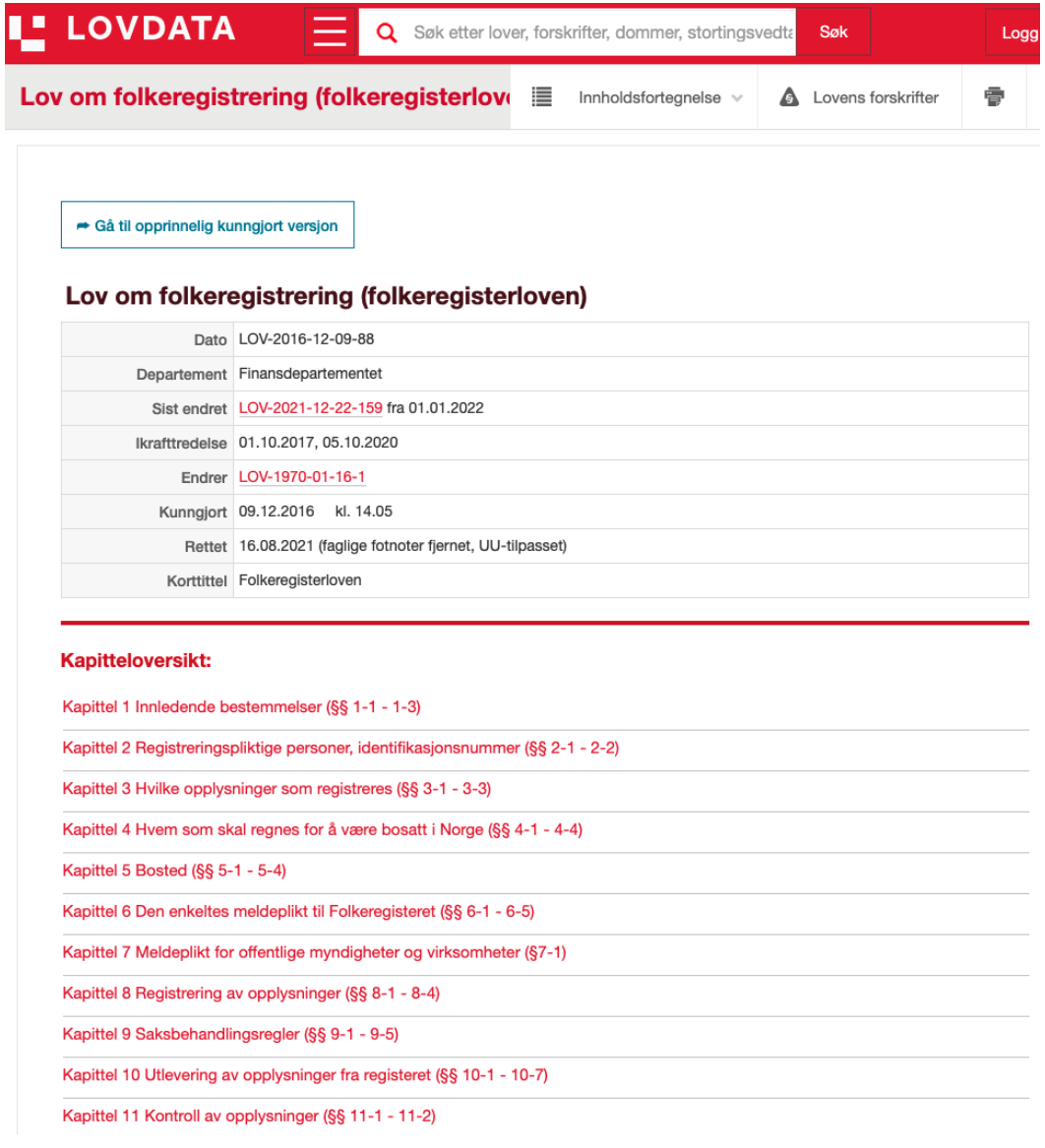


" ... the state can proactively create strategy around a new high growth area before the potential is understood by the business community (from the internet to nanotechnology)

On national registries

National registries require:

1. A data model to capture the necessary information
2. A database to store the actual data
3. Processes and interfaces to
   a. update the registry, aiming to make it represent reality as correctly as possible
   b. retrieve data from the registry, striving for convenience, but also ensuring legal compliance



GOVERNMENT AS A PLATFORM: A HISTORICAL AND ARCHITECTURAL ANALYSIS

Bendik Bygstad, Dept. of Informatics, University of Oslo
Francis D'Silva, Accenture Norway

ABSTRACT

A national administration is dependent on its archives and registers, for many purposes, such as tax collection, enforcement of law, economic governance, and welfare services. Today, these services are based on large digital infrastructures, which grow organically in volume and scope. Building on a critical realist approach we investigate a particularly successful infrastructure in Norway called Altinn, and ask: what are the evolutionary mechanisms for a successful "government as a platform"?

We frame our study with two perspectives; a historical institutional perspective that traces the roots of Altinn back to the Middle Ages, and an architectural perspective that allows for a more detailed analysis of the consequences of digitalization and the role of platforms. We offer two insights from our study: we identify three evolutionary mechanisms of national registers, and we discuss a future scenario of government platforms as "digital commons".

Keywords: e-government, Altinn, platforms

1. INTRODUCTION

In this study we explore the concept of *government as a platform*, and use the case of Altinn to develop our argument. The starting point is that information is power, in particular for a state. In 1086, twenty years after his victory, William the Conqueror ordered the systematic collection and documentation of the assets of England; the population, the land and the buildings. The objective was to create a national register for taxation purposes, and there were no appeal rights for the King's subjects, ever. Therefore it was called Domesday Book (Galbraith, 1961).

The most important part of the Domesday Book was the *cadastre*, the register of property. Defining the property object was important for taxation, but over time even more seminal as the key element in the law of property rights, which is a fundamental element in a capitalist economy (Williamson, 1990). The rest, we might say, is history. Today the digital infrastructures of modern states constitute the backbone of our societies (Scholl, 2015), and the Scandinavian societies have been pioneers in this respect.

In this paper we investigate the development of national electronic platforms, with an emphasis on the Scandinavian tradition. Our case is from Norway, called Altinn, which is a successful and advanced national platform that is used by all business and organizations, and by almost all inhabitants. Our research questions are:

- What are the underlying mechanisms for the evolution of e-government platforms?
- How can government platforms be developed into institutions for a modern society?

Our methodological approach is critical realism, which allows us to investigate the evolutionary mechanisms of digital government infrastructures, i.e. we aim to identify and explain the causal relationships between the assemblages of policies, organization and technology, and successful outcomes.

Our contributions highlight the importance of the historical heritage of national registers, as we identify three evolutionary mechanisms, which explain how national registers grew from simple paper-based

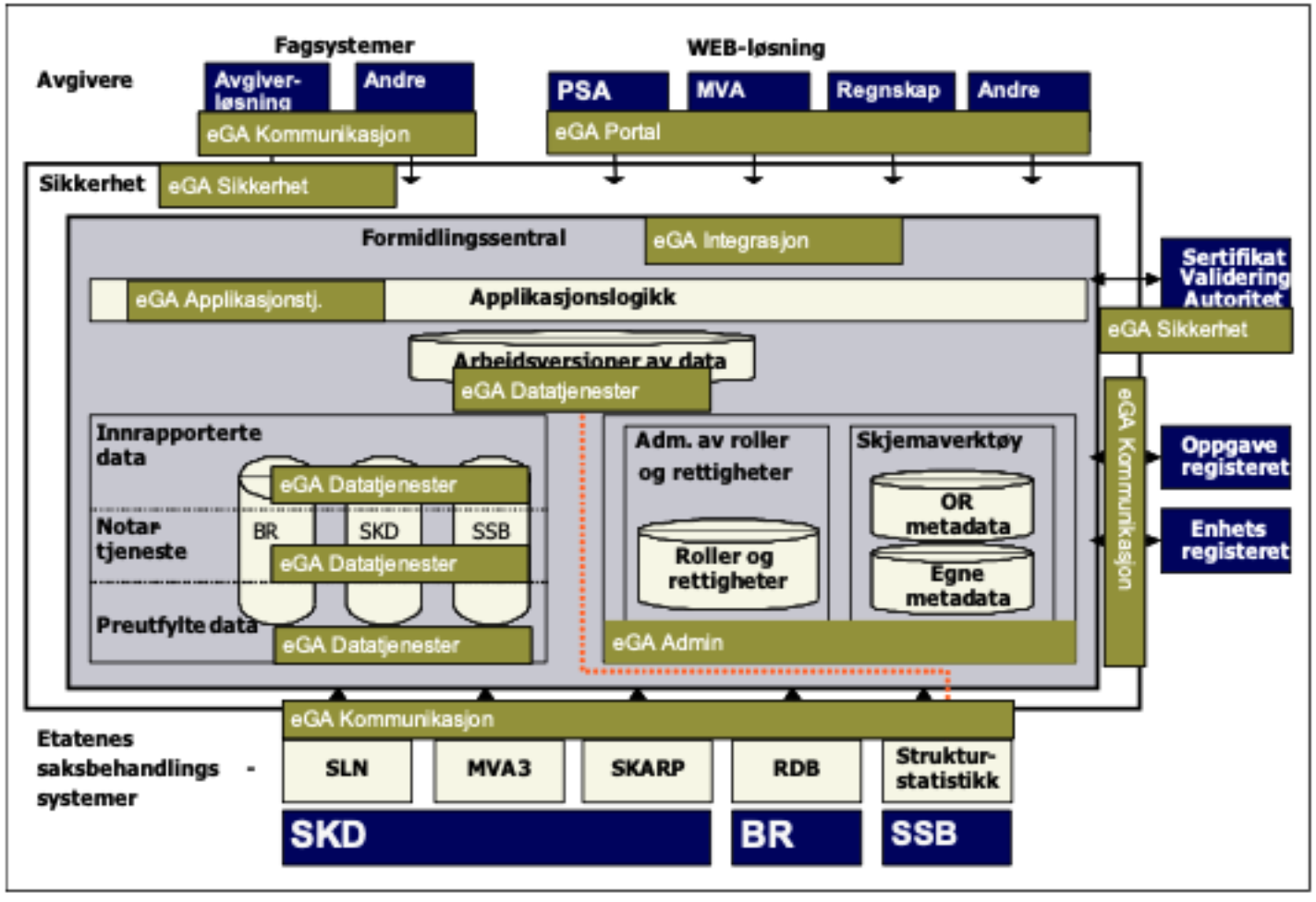
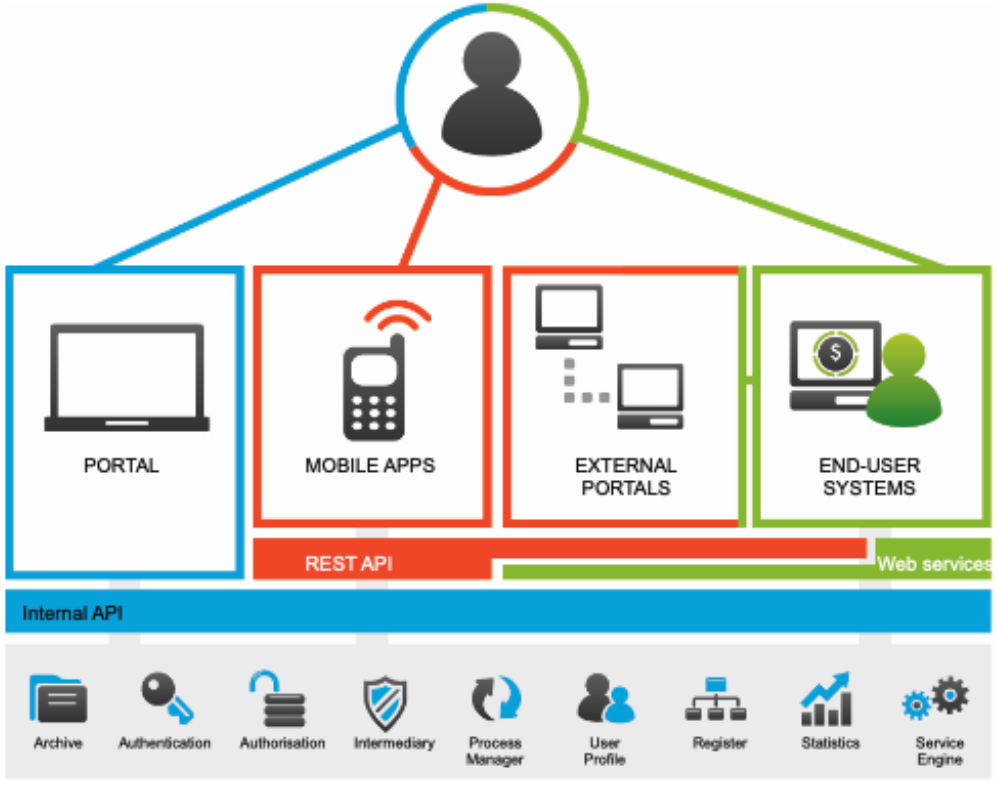
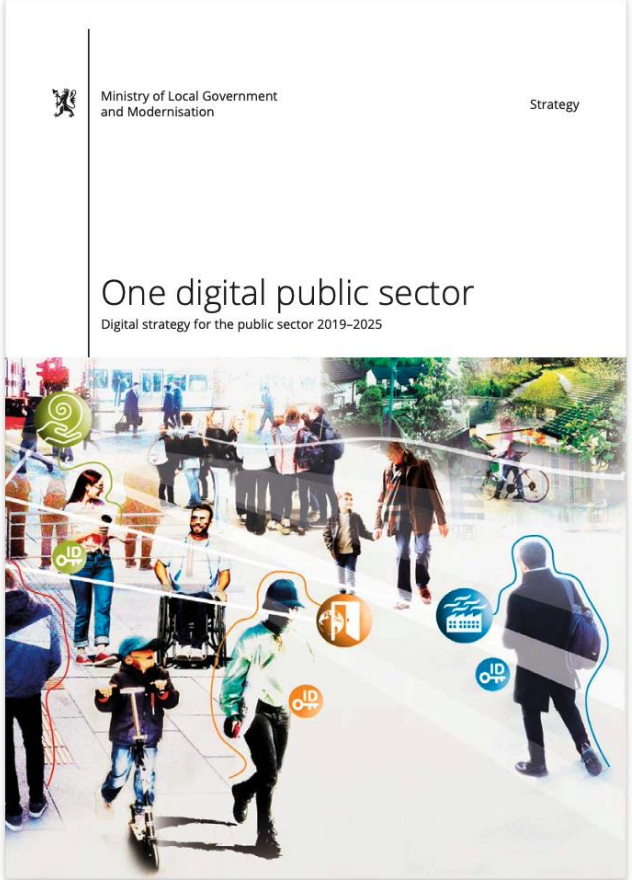


Figure 5. Schematic representation of key components of Altinn (in Norwegian)

Altinn as an innovation arena





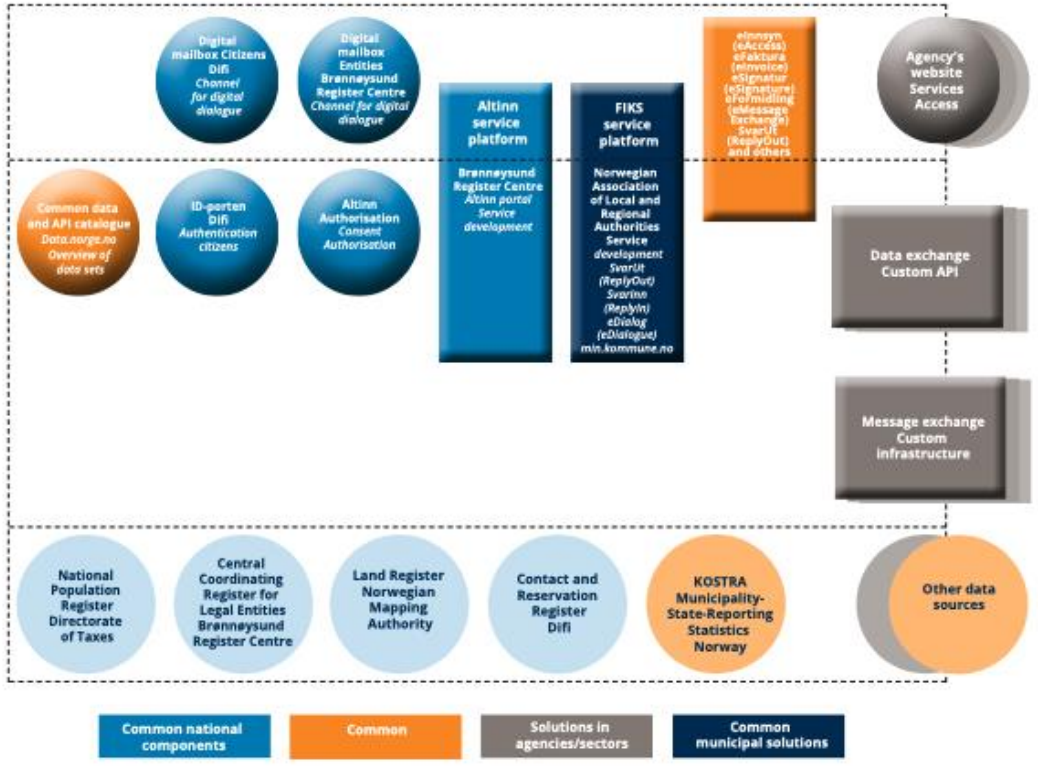


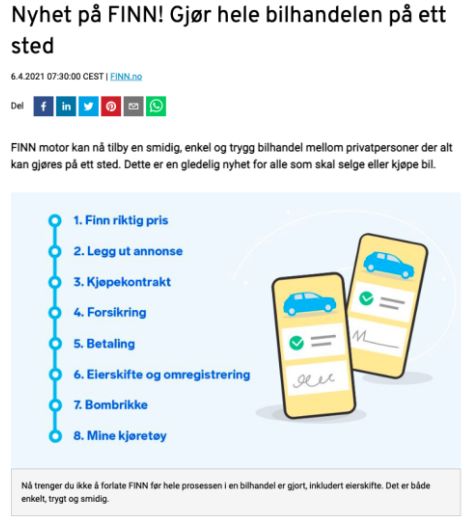
Figure 1.5 Overview of key common components and common solutions in 2019

Source: One digital public sector (2019), https://www.regjeringen.no/contentassets/db9bf2bf10594ab88a470db40da0d10f/en-gb/pdfs/digital_strategy.pdf



Source: Nasjonale fellesløsninger, https://www.digdir.no/felleslosninger/nasjonale-felleslosninger/750

Car ownership update (Statens vegvesen)


Nyhet på FINN! Gjør hele bilhandelen på ett sted

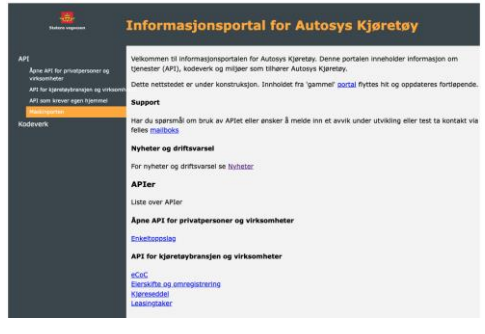
6.4.2021 07:30:00 CEST | FINN.no

Del

FINN motor kan nå tilby en smidig, enkel og trygg bilhandel mellom privatpersoner der alt kan gjøres på ett sted. Dette er en gledelig nyhet for alle som skal selge eller kjøpe bil.

1. Finn riktig pris
2. Legg ut annonse
3. Kjøpekontrakt
4. Forsikring
5. Betaling
6. Eierskifte og omregistrering
7. Bombrikke
8. Mine kjøretøy

Nå trenger du ikke å forlate FINN før hele prosessen i en bilhandel er gjort, inkludert eierskifte. Det er både enkelt, trygt og smidig.

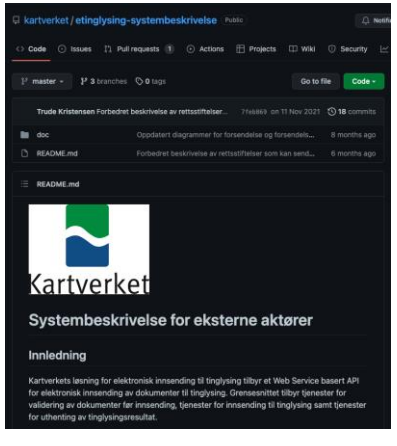


Property ownership update (Statens kartverk)

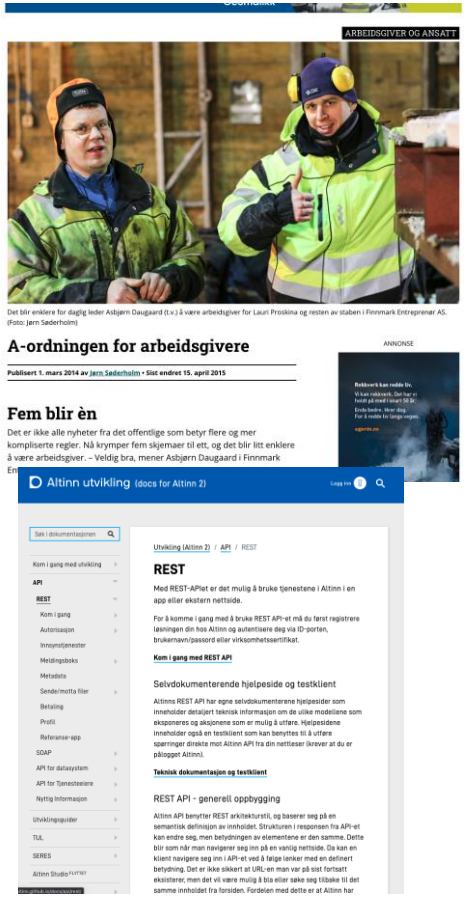

Nå kan skjøtepakkene tinglyses elektronisk

Av: Redaksjonen | 29. oktober 2020 | Forsidenytt, Nyheter

En privatperson som kjøper bolig, kan nå signere alle dokumentene elektronisk, inkludert pantedokument og skjøte. Skjøtepakken kan tinglyses digitalt. For kundene betyr dette en raskere og tryggere handel. I koronasituasjonen er dette ekstra viktig.



Employee monthly reporting ("A-meldingen")

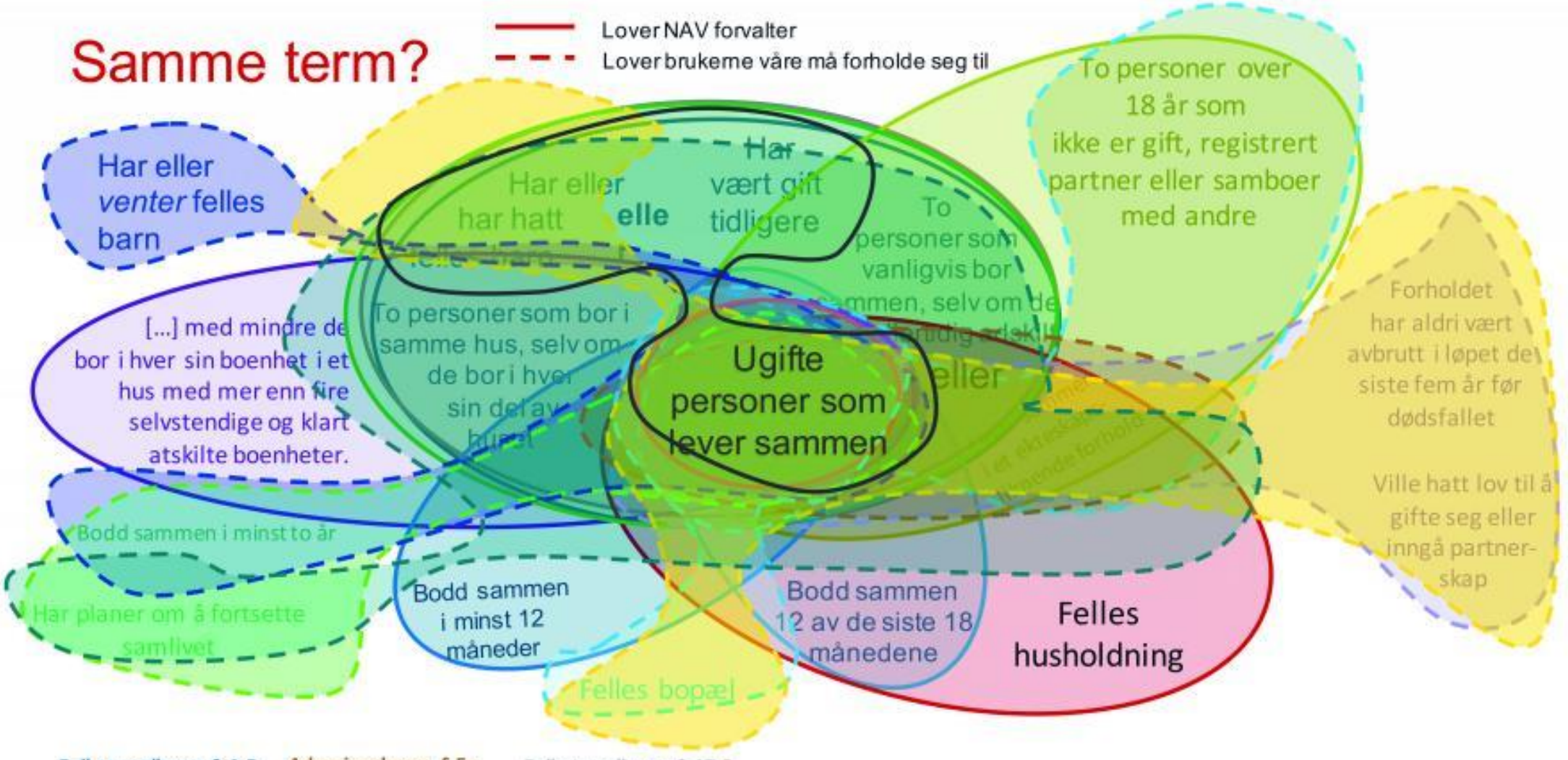


This sounds good, but why is progress so slow?

Important reasons

1. Complexity – in particular to ensure only legal updates are allowed, and providing correction features
2. Standardization (of data model)
3. Security, in particular authorization
4. Governance: which entities should be responsible for what?
5. Testing is expensive and requires specific competence
6. Lack of necessary competence (mainly technical, but also the important combination of technical and functional perspective)
7. Lack of willingness/confidence to invest from important stakeholders




Samme term?
Lover NAV forvalter
Lover brukerne våre må forholde seg til
Har eller venter felles barn
Har eller har hatt felles barn
Har vært gift tidligere
To personer som vanligvis bor sammen, selv om de
To personer over 18 år som ikke er gift, registrert partner eller samboer med andre
Forholdet har aldri vært avbrutt i løpet de siste fem år før dødsfallet
Ville hatt lov til å gifte seg eller inngå partner-skap
[...] med mindre de bor i hver sin boenhet i et hus med mer enn fire selvstendige og klart atskilte boenheter.
To personer som bor i samme hus, selv om de bor i hver sin del av huset
Ugifte personer som lever sammen
Bodd sammen i minst to år
Har planer om å fortsette samlivet
Bodd sammen i minst 12 måneder
Bodd sammen 12 av de siste 18 månedene
Felles husholdning
Felles bopæl
Folketrygdloven § 1-5
Adopsjonsloven § 5a
Folketrygdloven § 17-2
Forskotteringsloven § 5
Folketrygdloven § 25-4
Innskuddspensjonsloven § 1-2 bokstav
Barnetrygdloven § 7
Bidragsinnkrevingsloven § 11
Folketrygdloven § 9-6
Statsborgerloven § 11
Samordningsloven § 22
Tvangsfullbyrdelsesloven § 7-13
Folketrygdloven §§ 19-6 og 20-9
Folketrygdloven § 3-2
Arvelova § 28 c
Foretakspensjonsloven § 1
Barnetrygdloven § 9
Utlendingsloven § 41
Skattebetalingsloven § 10-32

Summary

- Governments are well positions to provide a platform both for external and internal innovation
- Creating an infrastructure for sharing governmental data and APIs are important steps to achieve this platfomrs
- Several Norwegian digitization efforts adopt this approach. Notable examples are Digitaliseringsdirektoratet, Altinn, Statens kartverk and Statens vegvesen

