Research on the introduction and use of digital competency models
in Nordic government agencies

Research Data

資料編

Research on the introduction and use of digital competency models in Nordic government agencies - Research Data

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Introduction

This research data document is intended to provide a view of the data that underpins the report "Research on the introduction and use of digital competency models in Nordic government agencies".

This document contains brief summaries of the interviews conducted for the research. They are not meant to stand alone, but rather to be perused along with the analysis of the final report.

Thank you for reading.

Research Design

The interviews conducted for this research, were conducted either online after prior agreement or in face-to-face meetings.

All interviews were based on an agreed-upon interview guide (see "Questions"). The interviews were all of a semi-structured nature, with the interview guide as a backbone and common ground.

The interviews ranged from 60-90 minutes in length.

Questions

1. What role does competency frameworks play in your work?
2. Why did you choose the competency framework you are using?
3. What did you do to adapt it to your context?
4. How are digital competencies being developed in your organization?
5. Is it centralized or local?
6. Do you experience a gap between competency in leadership and employees?
7. What are the key issues you are looking at in the near future?
8. Are you using other frameworks going forward?

1 Resources

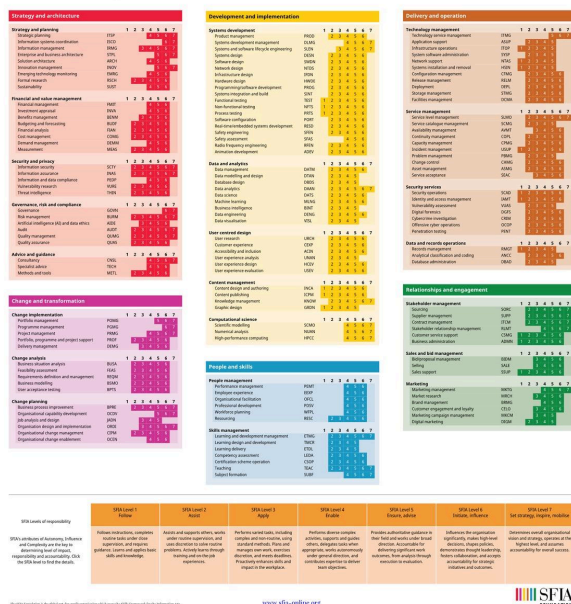## 1.1 Organizational Capabilities for Digital Transformation framework

https://di2x.com/framework-organizational-capabilities/

1.2 SFIA 9 Framework

https://sfia-online.org/en/sfia-9

1.3 Digital Competency Wheel

https://digital-competence.eu/
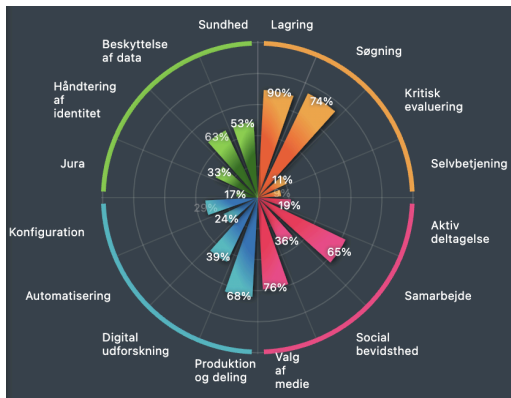
1.4 Public Sector Digital Competency Model

https://digst.dk/media/eqopkgz1/model-for-digitale-kompetencer.pdf (Authors translation)
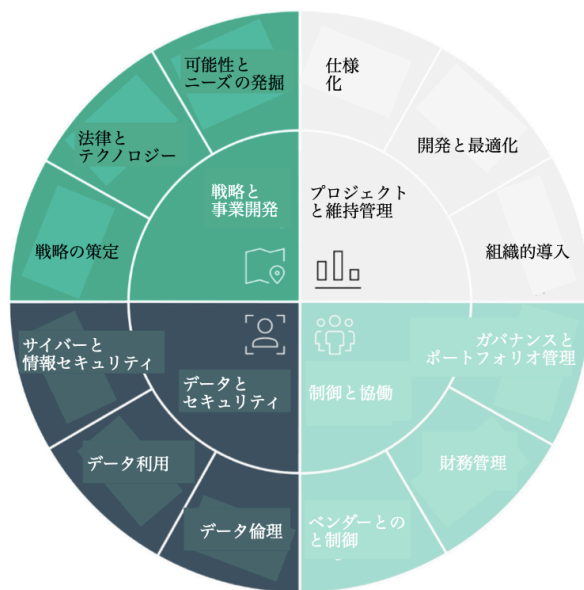
1.5 DigDir Competence Model (Norwegian Directorate of Digitalization)

https://www.digdir.no/digitalisering-og-samordning/ny-kompetansemodell-digital-transformasjon/3374

1	Politikk og overordnede føringer
2	Ledelse av digital transformasjon
3	Fagkunnskap og ferdigheter

1.6 DigDir Competence Wheel Model (Norwegian Directorate of Digitalization)

2 Interviews

2.1 Komponent

Interviewee: Jesper Hosbond Jensen, Head Consultant
Date: Sep 20, 2024

About the wheel

Developing digital competencies in the municipalities is an on-going process. It has undergone changes for a long time, and the wheel has been around for a long time. He has worked with the framework for a long time, as a user and a manager in a municipality. It has been really useful. It has incorporated new learnings and experiences, so it is only getting better.

The wheel is good today, but as we learn, it will take on a new meaning going forward. The central government and ministries such as finance are looking closely at the benefits of investment in digitalization.

There's a new healthcare reform in Denmark, and digital is so embedded in everything. It is not separate.

Working with the wheel, how does it work?

Each municipality is different. Some are small and some are large, but they have the same tasks they have to provide. It is characteristic how much they are talking to one another. The networking is often facilitated by KL. This kind of network interaction (new developments, best practices) enables people to act on ideas more quickly, and talk them through with someone like-minded.

As Komponent/KL, he's often not doing anything per se, but rather providing knowledge and enabling knowledge sharing. One of the keywords of KL is 'do it yourself'. They provide the tools so municipalities can help themselves better. They facilitate networks, and they provide speakers. So there is also help to get. It is working well to spread knowledge like this. The network enables them to share with trust, others will benefit from it, and nobody has to win.

The Haderslev Case

They had ambitions for higher degrees of digital. They needed help making ambitions specific. They wanted a common debate within top management. Komponent did interviews, and extracted common knowledge from the interviews. They were transforming resources for their ambitions.

When making ambitions concrete, it's good to understand what the baseline is. The competency wheel can help with exploring their baseline. The tool helps them as a gap analysis. They could see where their strengths and weaknesses were, and they created a common language around their issues, which made it clearer where they had to go.

Another municipality struggled with a problem they had with handling data quality and data architecture and having knowledge sharing between different sectors. They could work very good between different sections, but they didn't talk together.

They contacted Komponent, they had taken some courses, but it didn't help them. They asked Komponent to review their way of working, and interview all stakeholders. After 6 months they had trained and trained-the-trainer. Working with compliance and competence in the software they had. They worked with making their competencies digital, so they could offer better service to the citizens. But it started from their insight that what they did, didn't work.

KL/Komponent takes a fee. It is quite similar to others, but it is lower because they are owned by the municipalities.

They are working in the municipalities as colleagues, and so it is easy for them to go into the work. It is a difference between them and other consultancies, that they make it less "business like".

"Municipal-like" means that they are all former municipal employees, so they know the operational environment. They speak the language of municipal operations.
Private consultancies are business-like with a large base of knowledge, and they create confidence in that.

How are soft-competencies reflected in your work with the framework?

If a municipality needs help with tech, they can go to Kombit. They are in the same network, with less competition.

Komponent and private consultancies hear the same things from their clients in the public sector, but Komponent's products lean towards helping them do more themselves. Private consultancies tend to create an increased demand for their services. They can use their insights into how municipalities work, to enable them to be more self-sufficient.

Do you have a succes case for self-help?

Yes, Haderslev. They made a gap-analysis and then a programme for what they could do in 10 or 12 steps. This enabled them at the level of directors to say, ok, we want to do this in this and this way.

How much do employees have to know about competencies?

In Danish municipalities there is a lot of talk of competency in general. It has become clear over time, that it is important to have a common perspective on digital competencies and how to develop and support them - on all levels of an organisation.
Where Denmark is now, digital competence is completely embedded in the practice of HR. Recruitment and development.
All courses we take, digital is a part of it.

It is also what unions talk about. KL works with unions to develop relevant courses.
And when we talk about developing services, a digital component is embedded.

Is digital competency and core competency the same?

No matter your job title, you have to have a certain level of digital competence. Even if just taking a note or writing a decision in a case system, it has to be digital, so we can make it available to the citizens. It is a combination of law, and how to make the law living between the organization and the people.

A big part of educational programmes is also about becoming digitally competent, because otherwise you can't function in society.

He has a colleague who studied law, but is good at programming too. Or maintenance people who have to know how to operate and maintain drones. The nature of work is changing with the new tools we have. Drivers need to know how to efficiently operate the navigational system.

In Japan, "Digital" and "Transformation" tend to be separated, what is your perspective?

Transformation is key. It is transforming how services are being delivered in Denmark these past years.

There had been a lot of discussion about what digital technology would bring with it. Whether it was a threat. They brought in different stakeholders and discussed the prospects and risks together.

For example when introducing automated payment systems, they removed the need for a lot of jobs, but then re-skilled the people to be valuable in other places in the organisation.

There will be more transformation in Denmark, but we have trust and we can talk together about the challenges, so the transformation becomes less scary and less divisive.

What skills are the most important for digital transformation?

The most needed skills from managers and directors are not about technology, but about what we are doing for the citizens. It's very much about culture. You have to be aware of the energies and synergies in your culture, so that you can reinvent them.
It's important to keep a division in our minds between talking about tech, and talking about what we can do with tech. Those are not the same things.

Can this be trained?

There tend to be less digital competence the higher you get in an organization. So it is important to train leaders. If you have to change a society or an organization, you have to get a good grip of the managers and leaders, because they tend to be a problem. There's generally too little effort to change them. All the effort is focussed on the employees. But the employees are not the problem.

What is it that leaders are missing in terms of digital?

A lot of managers and leaders look at digital as a tech thing. They get more tech, but they just do what they've always done. They don't change what they do.

Do you have advice for developing a new framework?

Be aware of the Japanese context. Japan has a relationship with technology that might be different than what it is in Denmark.

2.2 Haderslev Municipality

Interviewee: Jette Skriver, Project Manager
Date: Sep 23, 2024

They have been on a long journey through several years, as digitalization is taking up more and more space in Denmark. In 2021 they had a new director and their old digitalization strategy expired. They knew a researcher in digitalization, Pernille Kræmmergaard. She had given a presentation on what kind of model they would need for the future.

The directorate set a goal which is to be in "Generation 4" in 2025 (in Pernille's model). That was 2021. They probably did not fully comprehend the scope of the endeavor.

The generational model goes from 0 (paper) up to 5 (ecosystem between public and private actors).

They create a working group to look into what that means. The had new chief of digitalization. They discussed whether to make a new strategy, but it didn't feel right, because they realized different departments were at different levels. They also saw a gap between what the digitalization team could observe, and what the departments themselves felt. So they decided to make a gap analysis, so everyone understood and could see where we stood, so they could start a process to fill it out.

They decided to use KL's maturity tool. They knew they had to be in generation 4, but didn't know where they were. They could see they were low on management and compliance, for example.

They decided to make a committee (styregruppe), which included leaders from each department. The committee serves 2 purposes: to have access to digital discussions, and to spread information in their departments.

The concept 'digitalization' can be difficult for subject matter experts to work with. Digital competency is not obvious to them.

They use a PDCA process to move forward.

Their focus right now is to define concrete initiatives. They understood that they need an agile strategy, to allow competencies to follow along with the rapid advancements in technology.
We need to develop digital competencies to succeed in other areas.

In their strategy they define digital competencies in three categories.
Using, curiosity, see potential, think solutions and being able to try things out. Their organization is not first-mover, so they need to practice being open-minded about trying things which not necessarily will be implemented. It's a mindset about being open to learning from trying. There's also an aspect around data, and using it more structured and having an overview of where what data resides.

Departments need tent-poles and milestones to aim for, all colleagues deserve dialogue about how to contribute their skills in a digital context through the employee development conversations (MUS) and leadership development conversations (LUS). But to really have these conversations meaningfully, we need leaders to be competent in talking about the subject of digitalization too.

That's part of the reason why we need to on-board management first, to really equip them to ask the right questions. So we move beyond being able to use things, to changing the mindset.

They did a measurement in 2021 and 2023 of the digital competences of management. The measurement was done for management only, and not employees. They need to focus on management, to really strategically execute in the whole organization later. Of course some things will be happening around the organization, but fundamentally they need to change leadership before really meaningfully engage with the rest of the organization.

At some point they do want to engage other levels too.

In the measurements they can see improvement in some areas, but others are still lacking. They had a decision to make around doubling down on those, or looking towards the weak areas too. And to reach a higher generation, they need to increase in all categories.

The steering group need to identify concrete initiatives this year.

They can't jump from level 1 to 3. They need to stabilize the foundation, and that's why digital competencies are so important.

They have a focus on CLF (chef, leder grupper (groups of leaders and directors)). They distinguish between specialized (subject matter) and obligatory (GDPR, AI, data) competencies. They have yearly training modules for the entire organization in the obligatory competencies.

They distinguish between three kinds of competencies (from Pernille Kræmmegaard).
- Competency of use
  Management needs to be able to create concepts for onboarding for example, and give employees competency of use
- Competency of creation
  Creation is about curiosity and trying things out and asking more critical questions of business as usual.
- Competency of concept
  Like mcdonald's onboard their employees, the municipality should do more to give people a sense of collaboration, flows of work and data. We should make the employees more quickly robust.
  1-1 onboarding, dialogue etc., which has to be identified and improved.

Competencies for management are different at each generation.
- In Generation 1, it's often about cost-saving.
- Generation 2 brings an understand that technology impacts the whole organization and ways of working. This requires leadership to implement systems holistically.

- In Generation 3, leadership is better at pilots and better at scaling. They need to be closer to the projects through working groups and removing barriers. This is new for the leaders in the municipality, because they are often subject matter experts, they make decisions about the systems, and then follow up later.
- Generation 4 is an agile organization as an ecosystem. More willing to work with outsiders based on a deep problem understanding. Not just buying a finished solution, but developing together.

The transformation must be important to all employees, and this requires management to create a frame of mind, structures and ecosystems for this in the organization. This requires digitally competent leadership.

What does leadership say they need in terms of competency?
- Direction, strategic knowledge and insight
- Inspiration and knowledge and development targets
- Better understanding of what technology is able to, more than the how
- How to communicate technology as a leader
- How to check up on governance. They don't have the competencies to know when and what to ask
- How to set a level of ambition. They know that generation 4 is the goal, but what does that mean, and do they have what it takes (competency, organization) to make it into reality. They need to be role models rather than experts. Not saying no, but saying yes and being curious.
- Managing uncertainty.
- Being able to execute.

There's a study called "Identifying key leadership competencies for digital transformation"
- Visionary thinking
- Agility
- Understanding the value of data
- Data driven decision making
- Knowledge of strategy, and acceptance of change.

But how to develop these competencies?
- The leaders say they need to be inspired
- They know the problem, but they can't make the connection to technology. How can technology contribute to the problem, to ensure that we still have a high level of service? It's essentially the connection between problem and solution, rather than simply introducing solutions individually.
- A sense of being together, and admitting weaknesses, so they can be addressed.
- A foundational course in core-applications like Teams. They need to understand the capabilities, so they can better guide the more specialized work.
- They'd like a better connection with the top management, because then they can work towards more commitment.
- They'd like to be involved in steering groups, but would like guidance on what that responsibility means.

- Communication as a practice.

The needs are than about connection, signature projects where they try something new that is scalable such as copilot and collaborate more around what works across the organization.

They are looking at ambitions by writing out their own and what they expect.

In their experience, there's no commitment if it's not a structured, strategic engagement. The development is needed. And there's a big gap between what the technology is able to, and what they are able to actually use.

Employees and leaders learn subject matter expertise in their field work or school work, but they don't learn digital competencies enough. The municipality as employer has a responsibility to help nurture that.

Some of the things they are looking into is what can be done during onboarding, or even pre-boarding, to prepare new employees more quickly.

Will you measure employees in the same way as leaders?

Yes, in 2026 they will have a new measurement. They will expand the target group from the 20 people in top management. Then there's 200 middle managers, which will covered in 2026. After that, they will also look at employees.

Why are you not expanding to employees immediately.

There's a translation that has to happen. The leaders need to have the competency, in order to lead better. The leaders need to have dialogues with middle-managers, and if they're not digitally competent enough to have that, it will not carry as much weight, and will perhaps not even be in the right direction.

They already have pretty competent employees in some departments, but it is not enough. The leaders must be able to put their weight behind new initiatives, for them to have impact.

What about education?

Within the social areas they are making agreements with the educational institutions about creating an initiative called digital nursing. It is important to have more strategic efforts in the educational context, because the youth are quite competent in certain areas of digital life, but not necessarily good at combining it with subject matter expertise.

What do you think about the distinction between digital competency and literacy?

That's where we talk about competency of use and competency of creation.

2.3 HK

Interviewee: Christian Nyholm
Date: Sep 23, 2024

About HK

HK has municipal, central government (more people with longer educations) and private sector departments. Typically it is office workers, but also technical/IT support staff. HK-members typically have a specialised education and not a university education. They have 7 regional offices. In terms of education they have some tasks that are bound by the agreements with employers. Continuous education and competency development is taking up more and more of employee contract agreements.

They have a competency fond, that covers courses and educations that gives certifications. These funds have been agreed on with KL and Danish Regions, and every one of their members can apply for it. You have a right and possibility for education.
Their model is characterised by the fact that the funds have already been secured. You still have to apply and explain it to your employer, but it is open by principle. You have the right to receive a written "development plan" for how the employer will develop you, and you have a right to yearly employee dialogue meetings.

If the course is not "competency developing", the employer has to pay themselves. Competency means that they provide ECTS and is accredited by the government.
The reason for the requirement is that members should be sure that they are standing stronger in the employment market. Simple courses do not do that.

HK is also helping with organizing and developing "professional bachelor" (専門学校) courses so they match what the needs of the jobmarket are.

HK's main mission is to ensure that the conditions of work are the best possible for their members.

Portal site for members (courses)

They have a knowledge and tools section on the portal site, where people can go for easy courses.

They have something called 'comptence profiles' which they make together with KL, to specify the kinds of roles needed in municipal settings.
They have done surveys with leaders in the areas to see what competencies are needed now and in the near future.

The tool creates an easy way of assessing together what needs to be worked on, and then talk about how to go about it.

The tool helps show what ways to grow for their members.

The competence wheel is more on a general level, whereas the competence profiles are for specific roles.

They do projects together with KL, for union-membership fees (partsprojekter), so leaders in the municipalities and union reps can collaborate in the field.

What have you done within digital?

To start another place, Komponent has made an education called 'kommunom' (trained at working administratively in municipality). It is something you have a right to take as a new graduate. HK collaborates on content of the course. More and more people want this course.

HK members are on the front line of having to be able to prompt AI and make AI chatbots.

They had a course in IT management that was started in a physical setting, but it was so popular that they made it online. There's a need that not only leaders in the organizations, but also members (employees) want.

They have a lot of foundational courses too. These are not done with KL.

They coordinate offerings with KL and the professional schools, to convey the needs they hear from their members. Schools have an interest in making themselves relevant to future HK'ers.

"Competency Funds" were made with KL and Danish Regions and HK. It was a trial, but made permanent because of success.

HK helps ministry write up guidelines for content of educations relevant to their members.

What levels do you think competency at?

Both usage of for example word, but also foundational, at an education level.

By offering their competency funds, they are also signalling to members, that they support 'life long learning'.

The competency funds are paid by municipalities. (DUT funds). This also incentivises municipalities to get their employees to take these courses and make the most of the money paid.

What is concretely the content of a course?

Foundational IT understanding. AI, RPA.. understanding not usage, but concepts.

There is no connection to the Competency Profiles, these courses are more general.

Career Advice

They are getting an increasing amount of calls about what to do about digital and career advancement. Typically, during the call they will do a competency check, and see what might make sense.

A lot of members hear something, and then they call as they are a little worried.

HK can see an advantage in having their Reps being well-trained in the digital future, because they then become someone to talk to for both employees and leaders.

Leadership development

There's generally a growing focus on IT leadership, and developing leaders.

Do you offer training in administrative/soft skills?

They do have courses in digital meeting management, collaboration, leadership and such. It's a lot of courses they have bought access to.

2.4 Center for Digital Dannelse (CDD)

Interviewee: Jacob Brøndum, CEO
Date: Sep 24, 2024

They are collecting a lot of data from their users (of course anonymised to be GDPR compliant).
The company is 15 years old. Started from talking about digital literacy. People were talking about the office package, but now they understand that it is the back bone of being a citizen and having a business or municipality. The importance of digital literacy has really dawned on society in that space of time.

They took the DigComp as their starting point. The newest is DigComp 2.2. They looked at the academic report, and asked how can we make this actionable and gamify it. That's how they made the tool.

Their company basically takes excel sheets and turn them into assessment tools. Competencies are often defined and discussed in one format and setting, and they end up in PDF documents or spreadsheets, that are not actionable. CDD helps bridging the gap.

You want to give people a vocabulary for talking about digital competency. They have a workshop format where people take the assessment, and then discuss right after. The data is live, and can people can talk about results immediately.

In their tool you can break down results based on different parameters, and make reports based on needs. In the report they can break down results into categories (using Bloom's Taxonomy) and say where people are in their learnings and what their next steps are. They rely on Leo Vygotsky's "Zone of Nearest Development". You have to go through natural steps, instead of pushing people to make jumps between levels.

The break down is "report", "competencies" and finally into "questions".

The tool allows them to see the organization in very granular fashion. 'Who do we need to help with what'.. 'What area is the organization as a whole bad at'.. (individual, taxonomy, problem areas).

They have a chart builder, where resources can be implemented on websites and dashboards. Universities does this with staff for example. Their tools allows for collecting, analyzing and visualizing in one, live swoop.

They started out with the EU framework, but they realized that customers want to use their own frameworks. So they made an editor.
In Switzerland they are using the tool to map the skills of all their unemployed, to see what work they can do.

You can define competencies through questions. This way competencies can match needs of the organization. You can also add weight to the questions and prioritize them in to need to have and nice to have.

They have adopted some default frameworks, but they can all be modified.

They have made their own update of DigComp 2.2 where they have added AI, in order to show how that technology area can be adopted.

They built the algorithm behind the competency wheel. It works by giving questions values, connect it to a value and that is then plotter.

You can also work with digital management, it's important, but they want to work on it with leaders. They define the description, and then adapt the tool for those parameters. So you can use it to assess "digital management" competency.

There are many frameworks from UNESCO and UNICEF fx, but they are all in inaccessible formats, that might look good, but is very hard to operationalize.

Their workshop format would be something like taking a whole team in the room, have them take the test, see live results and then really discuss what the different results and categories mean for the team and individuals. The point is that you then begin to train the language of the competencies, as people put them into words. That's what really development is.

How are people actually working with it?

They have "learning domains" : knowledge, skill and attitude. Attitude is really hard to work with. Knowledge is about reading a book while attitude is about sitting and talking through why they don't want to do something. But this varies between providers. Private companies often skip the attitude part and only look at skills.

They only distinguish between literacy and competence because of the words their clients use. Companies want competence, while educational institutions want literacy.

They don't provide learning resources, but can connect to LMS systems' API.

During corona, a lot of people realized the importance of digital competency. Organizations started asking how their employees measured up.

Their clients are either top-down (from a mother organization like a government) or bottom-up (like an individual school)

They are implementing a benchmarking feature, so clients can benchmark up against their own industry.

2.5 Teknologisk Institut

Interviewee: Annemarie Holsbro
Date: Oct 2, 2024

Technological Institute (TI) have done a lot of work for various organizations including HK in the area of upskilling and education design.

In Denmark we have trade-schools, and there are boards of professionals from both employee organizations and employer organizations who direct the content of the educations.

This ensures the work force is well-qualified and attractive. The work that TI does is helping to outline what is needed in the future, and how to prepare for it through the design of education.

In the past years, the strategy in Denmark has been to get citizens to do more self-service. This have implications for the competencies of service workers. Staff have to guide citizens, and not do the tasks for them anymore.

TI has worked with both pre-work education and on-going professional education (courses).

An important point about the Danish context is also that the development has been under way for a long time, so people do not feel they are being ambushed to suddenly having to learn digital competencies. They are already a big part of the way through school and societal discourse.

Example of digital component to education

They have made a something called 'business informatics' which is about taking trade-school programmes and adding a digital layer to them. The programmes includes carpenters and electricians. The programmes included getting students to know what is digital, what is ethical and how they can benefit from it. But also what to be aware of in terms of pitfalls.

There is something important to bear in mind around competency, which is that a lot of professional courses and upskilling are concerned with too practical applications. You are trained in specific software, which might not provide you with the necessary understanding to see new connections. Often people are taught competence of use.

On leadership

In Denmark it is often leadership who has to encourage professionals to take courses. They see a need and try to act accordingly.

But in manufacturing they see a tendency to leadership being behind on realizing potential of new technology. Employees might be antsy to automate or digitize, but if leadership don't understand, it can be difficult to get going.

Future challenges for Denmark

AI and the implementation and strategy around it is a critical point.

Future challenges for Denmark

2.6 Norway Digital Agency

Interviewee: Jens Nørve, Head of Department and Jila Nahmad, Consultant
Date: Oct 8, 2024

Jens was part of the team starting the digital agency in 2007. He ran one of the departments. One of the main areas of focus is how to introduce common knowledge and methodology for projects. Norway and Denmark has the same methodology as UK. Prince. Introducing such methodologies takes time. It's a huge cultural issue to introduce shared vocabulary. It is all about sharing, and understanding the benefits of doing things in a similar way across the organization.

We need to think and work in new ways due to digitization. Especially in the public sector in Scandinavia, we are working very siloed. It is a new thing to have data flowing across the silos. That takes a huge shift in their thinking. And to understand how to do this, you need a common framework. Norway got a new digital strategy in October 2024, and it says that they're going to lift digital competencies of public servants. This is a huge acknowledgement of their work.
The project has been under-funded though, so it has been something the team with Jens in front, has been working on on the side.

Why are competencies being introduced in the strategy now?

People are starting to realize that we can't succeed without digital competencies. We can't have digital transformation without common understanding about what is needed. It is so many things that are different from what they've been doing before. It's a huge shift.

The Norwegian Model

It is 3 parts. The Danish model is mainly concerned with the bottom third level. That is all the different topics that the agency would need to work on. This would be the same in public or private sector. That is important to be aware of, because you have an eye for commonalities and differences between public and private sector. Commonalities are good, becase you can then work on those together. In the coming years, a big issue will be collaboration and data-sharing between public and private actors. In Norway they have good data on oil and health, for example.

Something that is very different is the top level (the cone) and you can think about it as strategic documents from EU and parliament. All these have to be communicated, such as laws, and understanding why the laws are coming. It is a huge issue in and of itself.
The second element is the main focus, which is how the leaders can think and act to make the transition happen. They are taking it a bit further and focussing on "the blue circle" on how to address the leaders.

They are using Pernille Kræmmergaard's generational model. The model has been promoted fairly well in Norway, so more than 1000 leaders have been introduced to this. This

is a critical mass, and so they are doubling down on it, instead of trying to come up with something else.

It is a big help to have the books to refer to, because it is a cheap way to promote the framework. In addition, the self-assessment tools help them to discuss and learn with others.

They are trying to merge Kræmmergaard's frameworks with their own model.

What role does the competency framework play in their work?

Still in an early fase where we are trying to combine experience and thinking from the national government (state) and the local government (municipality). Refers to material developed in the municipal sector based on the research made by Pernille Kræmmergaard.

Why did you choose the Danish competency wheel?

It was chosen because the Danish people have made considerable progress in their strategic work with digital transformation. And this was the best that we found.

What did you do to adapt it to your context?

We are still working on this on a more detailed level, we would like to get the users involved in this discussion. In our preliminary study, we have developed four different concepts and provided a recommendation to establish an ecosystem. We have also set up a reference group and held many meetings with academia and other partners. All of these should be given the opportunity to be involved in the detailed description of the subject areas at level 3.

How are digital competencies being developed in the public sector in Norway? Is it centralized or local?

Take a look at the governments new digitalization strategy. Especially the chapter about competency. They don't believe in a big bang, it's a cultural thing where everybody has to be on board, while we define what it means and how to approach it. They are aware that they probably will not receive the resources they want for the competence aspect. Jens' idea is to ask for less money, and then make a model that everyone can use. This would enable him to involve academia, so they can do the essential proliferation work by telling students and writing books. The model should be made available to big consultancies as well, so the framework can be adopted broadly. This will in theory get the country to move in one direction, based on the same thinking. It is a way of involving the ecosystem. The keywords are include, share and encourage.

Why is there not going to be a lot of money going into it?

Politicians want to support things that they can see and understand. They love roads and bridges. Competencies are unseen, so they can not command large budgets. It is broadly believed that each agency should fix competency by themselves. The problem is that so far, it has worked ok with each agency doing things by themselves, but from now on, it's all about collaboration and transitioning across agencies. There will be no transition without competencies.

Do you experience a gap between competency in leadership and employees?

We have not yet started working with the target groups of employees or politicians, but we believe that the competency model and the ecosystem will be able to contribute to these target groups over time. They have already worked with 1000 leaders, who will start involving politicians as well. But it is a big work in the public sector.

What are the key issues you are looking at in the near future?

Our next step is to first discuss this internally with the leadership team and our reference group before potentially providing input to the ministry, recommending that this be used in their further work on the competency strategy, as mentioned above (a separate strategy will be developed).

Are you using other frameworks going forward?

Example: SFIA community of practice and The European e-Competence Framework (e-CF) – These are good examples, but we have not used these in our work.

2.7 Holbæk Municipality

Interviewee: Lonnie Jørgensen, Head Consultant
Date: Oct 11, 2024

What do you think of digital competency

Digital competency is very relevant for digital transformation. Getting everyone with you on the journey is so important. We often have front-running employees, but how do we make sure there are more of them, and how do we ensure that they don't burn out and how do we make requirements of what it means to be working in a municipality. That's what competency means. They realized they need to move the leaders. New employees 'die' if they don't have a good leader who can enable them to digitalize further. This raises the need for 'digital leadership', and they are doing the work to define this: what competencies are required to succeed? They have pointed out 8 competencies. Some of them are already part of leadership, but they have been demystified and then added to a bit.

What does it mean that leaders should enable staff to digitize?

It has to be a partnership between leaders and employees in order to move ahead. There are many employees who are trying to digitize as they can, but the IT department is also looking for the paper to really see if they can change how they do things. They have front-runners, and now they have leaders who can help with that, but leaders also need help with that. And that's where they are taking their internal consultants, and training them to support leaders' digital progress better.

The consultants have to be aware that leaders have this new digital role they also have to fulfill. The leaders think it can be difficult. Leaders typically have a strong area specific knowledge, but digital technology is not necessarily close to that.

The leaders have a focus on their area, and digital is basically just a means to an end for them. You need to invest in changing their mindset, otherwise we can't support more employees to take digital initiative. Leaders also need to learn change management, and balance motivation and resistance, so employees aren't burnt out by expectations in the new environment. Some people don't want to be digital, so how can you create constructive contagion for new patterns of digital behavior.

They are also looking into employees now, and not just leaders and consultants. They are recently starting to work on digitalization as education. There is a tacit expectation that people can operate computers and know information flows. They are expected to understand why the computer is the better choice. But they need it contextualized to a high degree, because abstract theories do not help them in their day to day work.

The 8 competencies
1. How are you a digital leader? (make decisions, communicate, teambuilding)
2. How are you curious?
3. Strategic and visionary (a lot of leaders want to do something now, but we have to realize that it's not a one off thing, and so there is a need to work with it strategically.

It has to be enabled as a vision in meetings, so we can discuss the potential of new technology. The main issue mentioned is that it has to be legitimate to spend your time on it)

4. Further a digital culture (to enable employees to work digitally, but also as a leader to maintain and nurture it. But they need to set up a digital training ground. New technology is not always immediately obvious to everyone. Time is a huge negative factor for succeeding with *maintaining* digital competency.)
5. Understand technology (it means understand the IT system you have to use, the work processes)
6. Be experimenting and open. Taking in new things.
7. Being brave and engaging wit the unknown.
8. Flexible and agile. Try things out and have the courage to stop things again if it doesn't work.

A lot of these competencies can also be taken over in the employee arena, and that's what they will focus on going forward.

They have work functions where people didn't even have to be able to read to fulfill it, but now it's a robot that has to be interacted with and maintained (chalk robots on football fields). The insight was to recognise there that might be barriers *before* becoming digital.

You don't mention very much about technical aspects?

It's an old mistake people make. In the old days, you had IT strategies that the IT department made, because it was concerned with IT. But IT has to be for everyone, and so maybe it doesn't make sense to centralize it like that. It's never been more ubiquitous or harder to plan. It's for everyone.

How we talk about things and each other matter a lot

But we still have leaders here who have a hard time, but some employees are simply revolting against that, and say, if you don't invest in my continuous growth including digital, I will leave. This creates a pressure on the IT department to creating meetings or networking groups, to make sure people remain invested.

What about the theory of digitization?

Professors like Pernille Kræmmergaard has really helped nudge the municipalities to do something about their digital efforts. But all theory can be hard to put into practice. They look at common language and common direction, but it's not always obvious what to say to the individual stakeholder on the ground. Theory tend to wash out differences and nuances.

But this insight has helped them understand that they need to lift the staffs of each area in terms of competency. They have courses on word and excel, but they also need digital competency broadly speaking. This might be stories about digital successes or GDPR regulation and cybersecurity, the political stance of the municipality and the citizen perspective. They create a network to remain attractive to the people with initiative.

They also look at digital behavior, so it's not something we talk about once, but rather something they keep practice. It's a "flower" that has to be kept and maintained. The field of practice is important for this. (dojo).
Time is also a factor. People need to solve their job, but also improve and rethink their job, is the time available for that? Does everyone need this?

What are the next steps?

Digital behavior is about changing the culture. And to do that we need to keep injecting and making it interesting. The IT department needs to insert itself in the daily talk "at the water cooler", to inspire. There is a theory about contagion, that we might look to. Some people need to inspire others and that way change the culture.

The training arena is still an just an idea, which is very recent, but they can see that they need it. They have employees and leaders requesting something similar.

In the old days, they saw that without changing the mindset, it didn't matter how much new technology they got. People and the culture weren't in on it. In the social area this is a big issue. This is a narrative that needs to change

Recruitment is another issue

They are beginning to realize that they need to be more clear when recruiting, that they are setting up the right expectations. They have to be more and more specific. Some departments and teams need specific digital skills, whereas other talk about not needing them at all.

They also need to be realistic about saying, if someone doesn't have the required competencies, then they should invest in them so the work can be done, but if that doesn't work, then they have to be clear about the prospect of firing people. Because these competencies are becoming so essential, it's something they have to be serious about.

Managing changing expectations

There's a huge difference in what people are used to, and that's why it is all the more important to discuss expectations and manage them. They can not take things for granted anymore, because the palette has become so broad and varied.
A job description has to be increasingly specific.

They discuss digital competencies with each employee once a year for MUS and LUS. Put they're not done, they still need to maintain a focus on edge-case employees, who also need to be aware of digital competencies. There tends to be an administrative focus, but it has to get out on the ground too.

They assess the leaders' competencies and compare to see what skills are present. And they want to make it a recurring thing. They don't use the competency wheel, but something they've made themselves with 7 categories on a range from 1-5.
1. How well do I motivate my employees
2. How am I motivated myself

3. Can I use the systems we need
4. Do I feel safe in digital tools
5. Do I follow the digital development
6. Do I have a focus on making digital part of the organizational culture
7. Can I share digital knowledge with colleagues?

They are aware that not everyone has to have a high score on all, but they need to have high scores in every category represented in their teams.

The assessment also helps in recruitment, because if someone leaves and they want to find a replacement, they can use this assessment to gauge what areas they need a new hire to be high in, in order to be up and running quickly.

They talk about a digital muscle, and it is something that everyone has that just needs to be trained at different levels.

They are aware that they are doing **transformation leadership** and *change management*. The difference is that they are moving into unknown territory. They just need to be agile in their strategy.

2.8 DI2X

Interviewee: Pernille Kræmmergaard, CEO
Date: Oct 21, 2024

It's about translating theory to practice, and creating value in organizations and for leadership with technology. At university it is often people who are already tuned into the value of IT, who seek to educate themselves further.

The Norwegians had been working a lot on the operational level, on how to do project management better, for example. They are using the frameworks that Kræmmergaard has developed, as reference points for *the language they want to use for this agenda.*

The generational model

First generation is about local practice and self-service. Digital services are deployed in individual services. But there is a barrier in this, which is the lack of flow of data across the organization. This means less coordination, and more time-consuming work. Stand alone solutions which the citizens might not actually appreciate.

Second generation is about better flow and integration between self-service and various backends. This means things only have to be filled out once, for example. Things are also better organized in terms of value chains and decision making structures (governance). The barrier here is that standardization might lead to rigidization. It hinders ideas and innovation because people are less agile.

Third generation is about honing in on known problems and solving them with existing technology. Like screen visits via iPad. An increased awareness of problems is needed here.

It's a staircase model, where each level is supported by the ones below it. The insights and measures of the first generation does not disappear or are thrown away as you move up. This is the development of the mindset.

Fourth generation is about starting to re-examine how we are a value creating unit. This is about radically reconsidering service offerings, based on a fundamental understanding of the actual need beyond a given, existing solution. Danish municipalities can find this hard, because it requires changing the very structure of delivery.

Fifth generation is about personalization and proactive, using AI to adapt solutions and prevent problems.

Sixth generation is about putting action behind ethical considerations such as transparency, that addresses possible issues created by data-heavy solutions in generation five.

How does competency or lack thereof relate to the generational step that most municipalities are at?

On generation one and two, there is a need of competence to do something. Creating and using self-service solutions. There is a competency requirement to understand how to use a system, and that data is transferred. The competency wheel as it stands is mostly relevant here. From generation 3 and onwards it is about mindset and thinking differently. It is a different kind of training needed.

'Competency Awareness' is also a concept worth noting. The organization has to be aware of the prevailing mindsets and the needed ones. You can't necessarily hire your way into a new generation, because at some point you will need to raise the average of the organization. It is also about being aware of what is needed down the road, so proper decisions can be made early. It is pertinent to consider the impact of AI, and the skills of existing employees in a future scenario.

There is an important distinction to be made between competency and mindset/way of thinking.

It is interesting to consider the skills you need when moving between the generations, especially 2 and 3 and 3 and 4. Because you need other organizational capabilities. You need strategy, technology, leadership and organization.

Organizational Capabilities Framework

Can be oriented towards both organizational and individual levels.

Having a framework provides a common language, so we can talk about what we need to develop. Without a framework, stand-alone ideas like an AI solution or a tablet-based

solution might take over the conversation. But with a framework, we can situate the topic of conversation into a larger whole, and orient ourselves in a common direction.

Software Solutions

As part of the assessment, they can ask the leadership group for where they are and where they want to be. Assessment is designed to kickstart discussion. It's a dialogue tool.

They use it for individual and leadership level to gauge digital mindset.

They also have one for organizational level to see how well the organization as a whole masters the 16 areas defined in the framework.

For example they have 10 respondents in a simulated leader group, to see what each think about the current situation and the future.

They also have a view of where each participant think the organization is in each category.

It's a common feature to be able to break down answers based on relevant categories such as department, age, gender etc.

They are also inspired by the competency wheel and have made their own.

They typically print out the report, so people can have a physical copy in workshops.

What about adaption between national systems?

We have not felt the need to adapt the framework to fit into a Norwegian context. It is intended to be a foundational model, so it works between national contexts and private/public sector.

The most pertinent adaption they've done, is to substitute 'customer' and 'citizen'.

What do you think about digital competency vs upgraded competency

There is something called digital competency, but we have to be very clear about what that means. It refers to being able to do something. Can you save files in the right place, can you understand basic cybersecurity, can you use your computer properly, can you use self-service tools and Microsoft Teams. Being able to USE and DO. It is very concrete and is about use of technology to improve your work.

This might not be forever, because things will change, but for now we need to maintain a focus on them, so we don't forget to talking about it.

Conversely, Pernille states there is nothing called 'digital leadership'. It is much more about doing leadership in a digital age.

But whether it is leadership mindset or competency, assessments against frameworks helps to make clear the individual blindspots.

2.9 Glostrup Municipality

Interviewee: Anders Schiøler, Digital Consultant; Vivi Rydahl Hansen, HR; Julie Falholt, HR
Date: Dec 9, 2024

Background

Strategically they had decided to give leaders a boost in digital competence. In 2015/2016. They did workshops and taught business case thinking and how to align expectations. They used the competence wheel to self-assess the leaders, and discussed theoretically what it meant and what gaps they could identify between where they are and where they want to be.

Digital competence assessment tends to be subjective, but it provides a good dialogue.

They haven't done other strategic initiatives on the matter until next year in April.

They have established a peer-network within the IT area (in the municipality), particularly the case-management system. Documentation of cases is a huge task for a municipality, and it is crucial that things are properly categorised and stored.
They deployed the competence wheel in the network too, by adapting it to the content of the network, and then held a one-day conference to discuss what competencies are necessary to solve a given task relevant to the network.

They could use the result to identify gaps which they brought along in subsequent meetings to discuss progress on.

They have three specific categories that they are providing mandatory training for: GDPR (Everyone has to take this training and get tested yearly), Cybersecurity and good digital administration practices.

But they don't have courses on anything for digital competencies in general outside of those three. They have a tacit expectation that people who get hired, know software and can get used to software.

But in the case of implementation of new systems, they do invest in people getting up to speed. With a new system they got recently, they did a lot of effort to visualize the work-processes and identify areas of improvement.
It is a very positive thing to get people together and talk about how they work, but it is seldom that people have the chance to do this. But a lot comes out of it, and it initiates peer-learning.

Development of Management

The past 3 years they have tried to develop management in terms of values and welfare transformation. The three themes of leadership are innovation, co-creation and digitization.

They are going to focus on 'digital bothers' in the every day, particularly in the three phases of new technology (acquisition, implementation and operation).

This focus is meant to make leaders be better at identifying where things go wrong, and better talk about what goes wrong.

It's important for them to have a language in common and practice how to talk about it. This is to support leadership in digital transformation, and making sure they are aware of what factors are important from the digital point of view.

They work very structured around role descriptions - project owner, data owner. This is a matter of knowing what to expect of each other during projects. Without clear definitions, it is too easy to say "this is not my responsibility".

When practicing how to talk about problems, they practice identifying what it is they are talking about: behavior or competence or system, for example.

Is Digital Competence a Concrete Topic?

They will definitely touch upon competencies, but they didn't consider it as something concrete.

They want to be careful not to let digital competencies or a lack thereof become an excuse. It is important to them to help leaders talk about their problems better, so the digital department can better help them finding the right solution.

"The more we talk up technology, it might block the more important dialogue around what their problems actually are"

How particularly are you talking about digital competence?

They probably are so far in Denmark, that a lot is being taken as a given. They don't test anyone within it. But one thing they are noticing, is that they are getting young new employees, who are not familiar with the Office package from Microsoft, for example, because they use Google in school or in private.
They're not testing for these competencies.

They are aware of what happens when they are getting a new technology like cloud services and Microsoft Teams. It is a big shift in how to work, and they are offering support through campaigns to people to figure it out.

They are encouraging peer-learning, so people do not get overwhelmed with a sense of lack of competence.

They try to be aware of creating a corporate culture around new software implementations, where it is ok to say if you can't do something, and leaders are aware of and being understanding.

They have a committee of leaders and internal experts that examine new technology purchases from many angles.

It's not a set point on the agenda, but it is something they regularly touch upon nonetheless. They had a discussion around implementing an RPA system to their social care unit, and it was obvious that it was too different of a competence profile that was needed in the operations.

2.10 Kristiansand Municipality (Norway)

Interviewee: Ann-Helen Moum, Head of Department
Date: Dec 17, 2024

The work in Norway on digital transformation and digital competencies is coming together. One is the answer to the other.

The work in the Norwegian Digital Agency started out separately from what was happening in the municipalities. They had a municipality reform in 2019, where they went from 19 to 15 counties, and got rid of 50 municipalities, so they are now 370 municipalities.
The reform made clear a need to formulate strategies and share. They also got a first national digital strategy.

They asked themselves what they needed to do differently, to succeed. And they kept coming back to leadership and management - what they need to know, and how they need to act, that they need to transform the sector.

A couple of municipalities were already working with DI2X and Kræmmergaard's model.
It fitted into what they needed: they needed to look at strategy and organization in a different way, to understand leadership training and the effects of technology.

They looked at not at where the problem is biggest, but where the shift is easiest - that's the top management of the organization. The employees are already digital, they know how it works, but they are not given great technology or good services.
They realized they had to do it broadly, because it would be too costly to only do something for one municipality.

They have had 300 leaders through the training programme.

The greatest gain is that they have a common language and framework to understand each other.

That's where the digital agency's model comes in. The agency's model shows that politicians need to know something, leaders need to know something and employees need to know something.. But Kræmmergaards model helps saying <u>what</u> it is they need to know. Soft skills (value chains, work processes, communication channels - ecosystem thinking) is the main point here.

The digital agency's model can be applied to continually enquire about whether you're at the right level.

Is there hesitation around digital competencies?

Absolutely. In the beginning of the programme (4x4 hours), people are positive. But then participants are struggling with the new words and concepts.

As they finished, they understood, and the challenge was then that they wanted to roll it out in their teams and organizations, but then met with a lot of managers who hadn't done the training.

How has it been in the past compared to the current direction?

In the past there has been a lot of focus on competence of use (how to use systems, not understanding them) and cyber security. A lot of people are trained to be right, so when recruiting managers from in-house, they typically bring that culture with them. This has often surfaced in an attitude of sending employees to take training, instead of the leaders themselves.

When managers don't understand technology and digital competency, you end up in a situation where employees don't have the right tools, systems or training.. And a course can not help the employees then.

Developing a modular training setup

They made a tender for module-based, self-learning packages based on DI2X's framework. One of them is a gamification of quality guidelines, because they are so big. It's a way to operationalize them.

What are the competencies that stands out for leaders

A lot of people lack a consciousness of workflows and information flows. The understanding that workflows or value chains don't start and end in their workplace - they are part of a larger customer journey. A lot of people tend to think only within their own silo.

One way this manifests is how communication is often about informing, rather than communicating back and forth.

The framework helps because it sets digital competency up as understanding that you have to have change in your strategies. Talking about technology, we need to know about consequences, but also how organizations work. Because this understanding will help you or hinder you in making change.

Managers need to be able to explain the why, and they need the competency to be convincing.