



## **Modeling of concepts in the Ministry of Justice**

### ***Models for co-operation on concept modeling***

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The co-operation between the various authorities under the Danish Ministry of Justice on the clarification and modeling of concepts comprises the following four institutions: The Danish Prison & Probation Service (Kriminalforsorgen), The Danish Police, The Prosecution Service in Denmark and The Danish Court Administration.

The work group is constituted by 12 persons: 4 from the Prison & Probation Service, 4 from the police, 1 from the Prosecution Service and 1 representing the courts. The Prison & Probation Service has undertaken the task of acting as a Secretariat co-ordinating the modeling work.

Originally, the concept modeling work was initiated in The Danish Prison & Probation Service as a prerequisite for redesigning the existing IT system for managing clients – the so-called Client System. But today's modern IT architecture makes it possible to exchange data between authorities, which is exactly the idea of these four authorities, so the scope of the modeling work was extended.

To be able to exchange data, it is important first to clarify which documents are being exchanged between the authorities today, and next to agree on an interpretation of the importance and contents of these documents.

To create an overview of the concepts, we use the DANTERM centre tools i-Term and i-Model – and it is precisely the combination of a traditional term base and a concept modeling tool that is unique and ideal for obtaining results as the one you see below.





It is not readable. However, it does give you an idea of just how extensible merely the concept “case document” is. There are 68 concepts. (We started out with over 100 concepts.)

Concept modeling is the basis for:

- Data being interpreted in the same way in all systems
- Data being able to flow freely and correctly
- Data being presented in a way that makes it possible to get an overview of accessible information

That data is interpreted in the same way in all systems means that it will be possible to compare, quantify and create statistics from certain data. That data is able to flow correctly means that you avoid manual transfers and that errors occur. To get an overview of the accessible information eases the exchange of data between authorities.

The Danish Prison & Probation Service’s concept modeling was conducted in smaller groups consisting of domain experts who had been introduced to the methods and principles of terminology work. Every group worked with certain subjects and they used i-Term as the modeling tool. No homework was necessary – the groups came to the meetings and discussed the subjects until they agreed.

When the modeling work under the Ministry of Justice was initiated, we tried to copy this way of working in what we call Plenum Workshops where all parties participated on equal terms. This type of workshop was planned to take place once a month and took place over two days’ of concentrated work. These workshops were repeated until everybody was satisfied with the diagram and the corresponding definitions.

However, in the process, it was necessary to change the way of working, as it became clear that these Plenum Workshops were not the ideal way of working in this forum. Perhaps because there were too many people in the group – bear in mind that there were 10 domain experts from four different but more or less overlapping domains. Perhaps because there were cultural differences between the four institutions. Perhaps because under the surface there was a non-explicit power clash between the authorities.

Therefore, we changed working method and chose to work in Authority Specific Workshops. This working method required an increased co-ordination effort in the Secretariat. The Secretariat conducts a shorter workshop with each of the authorities. It is necessary to document carefully what has been discussed during each workshop so we know who said what and why.

Suggestions to concepts, definitions, changes and comments were registered in an Excel-sheet. However, the definitions might as well have been documented in i-Term where we could have entered one definition suggestion from each authority.

On the basis of suggestions to concepts made by the authorities, the Secretariat creates a concept system which is commented on and revised later on in a workshop.

Once all the authorities have been heard, a concept system is created, where after the authorities may comment on it and add to it in a second workshop.



The Secretariat decides when the work has been finalised.

Advantages and disadvantages to Authority Specific Workshops:

Advantages:

- Faster results
- Fewer hours spent with the authorities
- A more structured work form
- Cheaper in the long run

Disadvantages:

- Time consuming for the Secretariat
- More consultancy hours
- More co-ordination
- Difficult to preserve the overview
- Domain experts have to do homework
- No on site agreement

Originally, we estimated that the time invested in the latter type of workshops would be more or less the same seen over a period of half a year. This was not the case. As mentioned earlier, the Secretariat spent more time, and the DANTERM centre delivered more consultancy hours, whereas the domain experts spent considerably less time.

In this way we achieve our results faster and therefore, the new way of working is actually cheaper and more productive. Although we apparently list more disadvantages than advantages, we do see that in this specific case under these specific circumstances and with this specific constellation of participants this is the method that is most effective and efficient. This is the method that our participants have indicated to be the best and the method that has rendered the most progress.

We may conclude that from our experience when you need a larger group of people to work together you should always bear the following in mind:

- Consider the number of participants/interested parties
- Beware of cultural differences in the various organisations
- Remember that there might be hidden hierarchies
- Decide how to facilitate the process
- Remember to promote/communicate the necessity of working with concepts
- Create ownership

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