

Results of the Virtual Brainstorming Session		
Phase	Pain Point	Participant
Model-driven approach definition	I spent a lot of resources on defining the model-driven approach because, for instance, my company did not have a modeling culture.	P6.E
	As licensing professional tools may take time, I had to work with non-ideal resources. Moreover, changing tools during the process was unfeasible due to the timeline.	P6.E
	I could not find a model-driven working method ready to use.	P4.E
	I struggled to find a model-driven methodology that suited the needs of my stakeholders and was technically sound.	P5.E
	I was not sure which modeling tool to choose. All of them have many more features than I needed. I did not know which features I wanted, so it was not obvious which tool to choose.	P4.E
	I felt that model-driven methodologies did not stimulate collaboration. I was hoping to find one that allowed for social construction, but I could not.	P1.B
	It took me a lot of effort to understand the model-driven working methods available and to identify the one that best suited the scope of the model I aimed to create.	P2.B
	I had difficulties explaining to others why I chose a given modeling language and what criteria I used.	P1.B
	While searching for model-driven methods, I encountered literature primarily focused on the creation of reference models with limited emphasis on models for application.	P1.B
	I missed more lean and agile working methods for model development. Maybe they exist but I did not find them.	P1.B
	While searching, I missed a collaborative modeling tool in which stakeholders could interact throughout the modeling process.	P1.B
Requirements Elicitation	My lack of domain knowledge made it difficult for me to understand the problem and propose a solution.	P5.E
	The abstract nature of conceptual models made it difficult for me to define clear and objective requirements.	P1.B
Knowledge Acquisition	I felt that even the domain experts did not have reliable knowledge about the domain.	P3.B
	It took me a lot of effort to negotiate a common definition among the stakeholders about an aspect of the domain that was not properly understood.	P6.E
	The domain experts were not available as much as I needed.	P4.E
	I had trouble dealing with the material about the domain (e.g. documentation, regulations, books). It was very boring!	P4.E
	I did not have much experience in extracting domain knowledge from experts.	P5.E
	I was not confident that my understanding of the domain was sufficient. It was a very dynamic subject.	P3.B

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Knowledge Acquisition	It was hard to deal with the complexity and contradictory aspects of the domain and find the right criteria for deciding which conceptualization to adopt.	P1.B
Model Creation	I was unsure how to categorize the domain aspects (e.g. concepts) according to the specifications of the language I chose.	P4.E
	I found it difficult to use the tool I had chosen. I did not know how to handle its features. It was complicated and had some bugs.	P2.B
	I was not sure which classes and relations should go in my diagram. I did not want to increase its complexity unnecessarily.	P4.E
	I wanted to reuse an existing model, but I had to redraw it from scratch. I am not sure it would be worth it!	P4.E
	Manually splitting the model into visually appealing and understandable views required a lot of work.	P5.E
	I changed something in a class and then had to reorganize several diagrams in which the class occurred.	P4.E
	Writing definitions for the elements in my model was hard and boring.	P4.E
	The modeling language I chose was not intuitive. There were too many details and specifications, and I was not confident that I was using it correctly.	P2.B
	I could not make one of my diagrams look good.	P4.E
	I felt there was a lack of formal guidelines for creating model views. I would like to learn strategies to reduce the model's complexity and make it easier to understand.	P1.B
	The other stakeholders did not consider it important to document the model and did not understand my efforts to do so.	P6.E
	I did not have much knowledge of logic and it was hard to translate the domain constraints into the model.	P1.B
	I tried to reuse an existing model but found it very difficult to adapt it to my needs.	P1.B
	I felt there was a lack of formal guidelines for documenting conceptual models. I was not sure which documents should accompany my model.	P2.B
	I had a hard time identifying the domain constraints that were relevant to my model.	P1.B
Model Testing and Evaluation	The tool I chose did not support model verification. My model was large and complex and verifying it by myself was not trivial!	P5.E
	Validating the model with the domain experts was challenging because they were not used to the modeling language I used.	P5.E
	I was not sure if my model was good enough.	P4.E

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Model Implementation	I feel like I was repeating myself when creating my database schema (or OWL ontology).	P4.E
Model Verbalization	It took me a lot of effort to generate verbalizations of my model suitable for the different audiences that should be able to read it.	P4.E
Model Maintenance	It was challenging for me to change the model while trying to reduce the impacts and keep its consistency.	P1.B
	I found it a very demanding task to keep the model and its documentation updated.	P1.B

Total = 42 Pain Points