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Interview with Anne Persson on "The Practice of Enterprise Modeling"

Jennifer Horkoff [iD] · **Manfred A. Jeusfeld** [iD] ·
Jolita Ralyté [iD]

Prof. Dr. Anne Persson
Högskolevägen,
Kanslihuset
Box 408
54128 Skövde
Sweden
anne.persson@his.se

Anne Persson is a Full Professor of Informatics at the University of Skövde, Sweden. She holds a PhD in Computer and Systems Sciences from Stockholm University, Sweden, (2001) and an MSc in Computing from the University of Manchester Institute of Technology, UK (1998). Her main research interests are enterprise modeling, requirements engineering, knowledge management processes and systems, e-services, and health informatics. Persson is the author or co-author of more than 80 scientific papers and research reports, she serves on a number of conference program committees and has been a program co-chair of four conferences—CAiSE 2004, PoEM 2008, 2009, and REFSQ 2010. She is one of the founders of the PoEM—(Practice of Enterprise Modeling) conference series, holding its 10th edition in 2017. Persson has been involved in various key roles in a number of European and national research projects.

We conducted the interview iteratively via email correspondence over the summer of 2017. Anne had been the general chair of PoEM 2017 in Skövde 2016 and, given her history with PoEM, we thus were very keen to learn about her views on enterprise modeling.

BISE: You started the conference series PoEM, meaning Practice of Enterprise Modeling, in 2008 with Janis Stirna. What were your goals at that time? Why did you feel the need for this specialized conference series given that the Conference on Advanced Information Systems Engineering (CAiSE) and the Conference on Conceptual Modeling (ER) also cover modeling and enterprise modeling?

Persson: Both myself and Janis Stirna have always taken a great interest in the practical aspects of Enterprise Modeling, ever since we both wrote our PhD theses on this theme. We have done quite a bit of research into how Enterprise Modeling is used in different contexts and into the conditions necessary for Enterprise Modeling to reach its full potential. At the time, we noticed that the practical

Asst. Prof. Dr. J. Horkoff
University of Gothenburg, Kunskapsgatan 3,
417 56 Gothenburg, Sweden
e-mail: jenho@chalmers.se

Asst. Prof. Dr. M. A. Jeusfeld (✉)
University of Skövde, Portalen, Box 408, 54128 Skövde,
Sweden
e-mail: manfred.jeusfeld@his.se

Dr. J. Ralyté
University of Geneva, Route de Drize 7, 1227 Geneva,
Switzerland
e-mail: Jolita.Ralyte@unige.ch

aspects of Enterprise Modeling did not receive much attention from researchers and wanted to make an effort to boost interest in them. Founding a conference with that particular focus felt like a natural step. Also, we saw a need to bridge the gap between researchers and practitioners and we therefore aimed to involve them in the conference.

BISE: PoEM emphasizes the industrial or application perspective. So, how did that work out over time?

Persson: As I said, we wanted to involve practitioners in the conference. We knew some practitioners with a research background and invited them to the program committee to obtain their view on the relevance and contribution of the papers to practice. For the first events, we also organized sessions where researchers and practitioners could discuss practical challenges that might motivate further research and/or collaboration between practitioners and researchers. By providing a forum for these discussions we also hoped to inspire practitioners to use the results of research in the field and to initiate research. However, the challenge to preserve this aspect of the conference has been greater than anticipated. I believe that the research community needs to put more effort into involving practitioners in the fora where we discuss our research. After all, researchers in this field hope that their research in this area is useful and needed by practice.

BISE: We share the goal to promote the use of modeling in various domains. Still, I wonder how academia can achieve this goal. What do you think: How can business leaders be convinced to consider EM for solving practical problems? What are the practical problems that EM tackles?

Persson: In our research, we have found that Enterprise Modeling is mainly used for the following business purposes: developing visions and strategies, developing and refining business processes, developing information systems, maintaining and sharing knowledge about the business, and ensuring the acceptance for business decisions through involving the stakeholders concerned. Those are the areas where we also see the best potential for using Enterprise Modeling. So, how can academia then promote its use? Well, there we come back to the purpose of PoEM again, the focus on practice. If we want practitioners to listen to what researchers have to say, we need to be truly interested in the challenges that businesses face and propose useful, practical and research based solutions to those challenges. This means that researchers need to constantly engage in conversation with business stakeholders to ensure that we do not lose the sense of what issues are urgent out there. We need to understand what's in it for them, and that's it really. And then, when we get the chance to explain to them the great work that we do, we need to explain it with their terms and focus on their needs

and how we can help. We often only get one chance to "sell" our message!

BISE: You have been involved in several projects with a focus on modeling. One of the outcomes is the 4EM method. Tell us how this method came into being! What lessons learned from earlier projects have led to particular features of 4EM?

Persson: It has been an interesting journey to be involved in developing the method. The first version of the method was developed in the 1990-ies in the Esprit project From Fuzzy to Formal (F3). I was a PhD student back then and it was very interesting to work in a team that consisted of researchers and practitioners from different parts of Europe. One of the most distinguishing traits of the method was the notion that there were links between different types of models and that these links needed to be documented and maintained in order for the package of models to make sense as a whole. For example, information sets that we include in a process model are defined in a concepts model. Another feature was that goal modeling, the strategic aspect, was included in such a distinct way to ensure that the models developed contribute to developing the business concerned. Yet another important feature was that the method was not only a modeling language, but also a defined process to develop the models in a practical context. This process was based on a participatory approach to modeling, which was something that had been practiced in Sweden since the end of the 1980-ies.

Since the method was first developed it has been refined in a few more European projects. In the first project the purpose was to support information systems development. Later projects were more geared towards other types of business development, e.g., knowledge management. The main distinguishing features of the method have remained the same over the years, which shows that the ideas behind it still hold, but we have learned a lot more about how to practice the method.

BISE: One view on EM is that it bridges the gap between business people and IT people. It is a kind of translator between both sides. Do you agree? What are your thoughts on this?

Persson: I agree that it should do that. If this is the case in practice, however, I'm not sure. Over the years I have noticed that modeling languages have become more and more complex, particularly those meant to support software development. Of course there are business people who understand modeling languages, but as a general rule I would say that for communication purposes the models need to be as simple as possible. In the From Fuzzy to Formal (F3) project the idea was that the models targeting business people was fuzzier and fairly simple to understand and that there should be other, more formal models developed from these models to support software

development. Links between relevant components of the two types of models were also meant to be maintained. For example, it should be possible to trace back a software requirement in a requirements model to the low level business goal to which the fulfillment of that requirement was supposed to contribute.

BISE: Besides your research life, you are also the dean of the University of Skövde and collaborate with many stakeholders at the university to achieve the goals. That sounds to me like an excellent case to use enterprise modeling! So, what would be needed to make EM work for you as a user?

Persson: It is an excellent case in fact. Particularly since a large portion of my responsibility is to design and implement organizational processes and IT systems to support the quality assurance of education and research and making sure that people want to use those processes and systems. Coming to think of it, I use many aspects of my knowledge and experience of EM to support my work even if I don't call it EM all the time. Since I know EM quite well I would not consider myself the typical business user of EM. A more typical user would perhaps expect that the university provided the support I need. One of the most important things to consider is that the notation used is easy to understand. Also, I would need help to facilitate modeling workshops and to document and communicate models in an understandable way.

BISE: The economy is currently undergoing an enormous transition towards ubiquitous digitization leading to a massive amount of new data streams. Some experts forecast that future enterprises will be re-configuring themselves with much less human intervention, e.g., by re-routing the flow of material on the basis of the current status. Where is EM in this new world?

Persson: As you imply, automation will increase in the future. This means that quality assurance of processes and data will be even more important than today. For EM, I believe it will be increasingly important to set the bases for these automated processes, i.e., EM to support Enterprise Information Management and Enterprise Architecture.

BISE: You've emphasized simplicity in EM methods for the communication with business people who don't often model. However, when publishing EM experiences and methods, often the academic world looks for novelty, a significant delta with existing work. Simplicity and novelty can often be at odds. Have you experienced this challenge when publishing your work, and how have you managed this balance?

Persson: Einstein allegedly said that everything should be made as simple as possible, but not simpler. In my view, and this may be somewhat controversial, novelties in enterprise modeling research often mean that more constructs are added to existing modeling languages or that new languages are proposed for some specific purpose. This adds to the complexity of the field. I also see a trend towards more and more formality in languages, of course driven by the need for tools and to automate. However, we must remember that the most important resource for creating a model of high quality is people, and more specifically professional modelers and domain experts. At some stage in the modeling process the level of formality and complexity has to meet the knowledge level of the domain experts at hand. Otherwise it will be difficult to make sure that a model being developed is relevant and fit for its purpose. My line of research has focused on the process of modeling and not on modeling languages, which by nature is more qualitative. Therefore the results can be perceived to be simple and common sense for those that are not deeply involved in this line of research themselves. This type of research seems to have become somewhat more difficult to publish than the more formal work, which worries me a little. After all, we can be experts in using the constructs of a modeling language correctly, but if we do not also master the process of creating high quality models that have an impact in their context of use, it will be difficult to prove the value of enterprise modeling.

BISE: Thank you very much, Anne!