

01-07-2024 ROBERT WINTER – TRANSCRIPT

2 SPEAKERS

Sebastian Reiners
Robert Winter

Duration

26m 35s

START OF TRANSCRIPT

[00:00:02] Sebastian Reiners

Hello and welcome back to the DSR Academy to our interview series. And today I have the tremendous opportunity to welcome Robert Winter to our interview series. Robert is a professor of information systems at the University of St. Gallen and the director of the Institute for Information Systems. He is an established researcher in the design science field. He's actually one of the teachers who taught me design science research as part of a DSR course. I'm so happy to have Robert here today. Robert, do you mind telling our audience a little bit about yourself, your current tasks, and so forth?

[00:00:43] Robert Winter

Yes, of course. Thank you for having me, Sebastian. It's an honour to speak here in that series. So, what I'm doing. In St. Gallen, we are quite a big group of information systems researchers. Across all paradigms and approaches, but including, and that's a tradition at St. Gallen, also design-oriented research, even before it was called that name, back in the 80s and 90s, when we started developing methods and developing the business engineering approach. At the moment, there are five chairs and around 35 or so people at the institute, covering all major areas of IS research. In my group, it is enterprise-level information systems as well as methodology, including, of course, the special emphasis of design-oriented research.

[00:01:51] Sebastian Reiners

Perfect. You have published a lot of papers on design science over the years, and there have been a lot of citations for your works, but I have one paper in particular that I would like to discuss with you today, which you wrote, and I believe it's published now. I believe it was published in June in MIS Quarterly. It's named Dealing with Complexity in Design Science Research: A Methodology Using Design Echelons. You had two co-authors, Tuure Tuunanen and Jan vom Brocke, who are also quite established in the design science field. This piece has a lot of potential. It's already been cited six times, although it just came out. It's probably going to have quite an impact in the design science field. You basically go on about it, and you present a new method for conducting design science research. I would like to talk with you today about the, let's say, potential impact and the progress of this paper, which I think is very exciting. It's a very, very interesting piece of work. Maybe to start it off, I would like to go back a bit and have you talk about what the key idea of the paper is. Why did you write the paper in the first place? What's your reasoning behind that?

[00:03:25] Robert Winter

Yeah. Well, as you said, we're doing a lot of design-oriented research. And over the years, over the decades, the artifacts and the process became more and more complex. So, 20 years ago, of course, there were not so many artifacts available. The discipline was not so mature in terms of methodology. So basically, developing a solution, a kind of new prototype, an innovative technique, a modeling technique, or simply a reference pattern for something was sufficient to make a nice contribution to the field. Nowadays, when I look into the current volumes of research and the good conferences, things become a little bit more complicated. People think they need to contribute to theory or at least design principles. Or if it's not principles, then the artifacts

are IS artifacts. They have technical components. They have organizational components. They should be impactful, probably in large organizations, and that means the artifact and the process become much more complex. But what we have in terms of methodology, if you think of the classic references Hevner et al. (2004) and Peffers et al. (2007), they are basically from the times when design research was much simpler. So the methodology that we have and the references that we have do not really fit the complexity of projects that many people and researchers do today. That was the rationale for providing something new, because we thought that the tools that we have and the concepts that we have did not do justice to the complexity. One aspect, I don't want to talk too much, but for example, if you have 20 pages or so or 25 pages and you have a complex artifact, a complex process, lots of stakeholders, and a complex problem, it's really hard to document the complete process from problem analysis to evaluation in a few pages. Therefore, we need a new concept. And that was the basic rationale for thinking about alternative ways to structure the process, to communicate design, and to write this paper.

[00:06:09] Sebastian Reiners

If that was the idea behind the paper, there's a lot of process that goes into a paper of thoughts that get developed while writing the paper. And now that you've published it and the review said it's acceptable, how would you summarize the key idea? What do you want to communicate to the scientific community?

[00:06:36] Robert Winter

The key idea is that the basic instruments that we have for structuring a design process, which are iterations and the phases of the phase model, are nice and true and useful, but we need something different. There's a theory, and that's the theory of hierarchical multi-level systems going back to the 1970s. That theory has three dimensions, or three perspectives, if you want. There's a perspective of layers. There's a perspective of what they call strata, and there's a perspective of echelons. I got in touch with the theory during my PhD time in the 1980s, when I was working on production planning systems and production management systems. And there, it was quite useful to differentiate these three perspectives. And then I took this theory and applied it to design research, and surprise, surprise, what we found was that there is already something like a strata perspective in DSR. There is also something like a layer perspective in DSR. But what we don't have is an echelon perspective. That was the basic idea behind the paper. If we have a good theory—a big theory that explains complexity and deals with complexity—and we have instruments that only cover two of the three perspectives, it's quite straightforward to introduce the third perspective into design research. And that's the perspective of echelons.

[00:08:25] Sebastian Reiners

And maybe—I mean, it's going to be quite hard to say what the impact of this paper is going to be. As I said earlier, I think it's going to have a big impact, and we already have the citations to show for it. But if you look into your paper right now and maybe a little bit into the future, what do you think the main contribution of the paper is going to be? And what are you particularly proud of that adds to this field of design science research?

[00:08:56] Robert Winter

Yeah. Getting through at MISQ is an indicator of some degree of legitimacy. Right.

[00:09:05] Sebastian Reiners

I would agree. I would agree that's quite tough, yeah.

[00:09:09] Robert Winter

Yeah. It's the same with the Hevner et al. paper. Thousands of researchers did design-oriented research in the 1980s and 1990s, especially in Europe. But they weren't able to publish it in top IS journals until the Hevner et al. paper came out, which somehow legitimized doing design-oriented research as a legitimate way of doing IS research. Now we have these complex projects, and what people don't dare usually when they submit papers to journals or to ambitious conference tracks is that they don't dare to cut out a piece of the design project and publish it as a separate contribution. For example, understanding the problem, evaluating the utility of an artifact, or doing the design—in our paper, we call this intermediate artifacts. And if there's any impact, which I would hope that this paper has, it legitimizes that people submit intermediate artifacts and portions of the design process to conferences and journals, and that they refer to this MISQ article and claim, Well, this is a legitimate way to do DSR. We don't have to report the entire process. We don't have to report every single iteration. We don't have to report everything, from problem analysis all the way through evaluation. If the project is complex, we need to cut it into pieces, take a certain echelon of the process, and publish it. That's at least the ambition that we have with this paper.

[00:11:05] Sebastian Reiners

Just finishing my PhD, I can really say that it's quite hard to see the big picture, and to have the opportunity to publish intermediate artifacts would have helped me a long way in my PhD studies to get feedback for that intermediate artifact, even at conferences, for instance. So yeah, I totally agree. That's a very, very big contribution that is totally needed in the DSR community. You spoke a lot about the process of design science research in general, but I remember reading a LinkedIn post of yours about the paper in which the duration of the publishing process was spoken of. I presume there have been a lot of hard decisions along the way and a lot of discussions along the way with you and your co-authors, and the reviewers to some degree. And maybe you can take us along with the design process of your paper and talk a bit about the moments and decisions you had to make during the design of the paper.

[00:12:14] Robert Winter

Yes, I'm happy to do so. Well, a little bit reluctant because it's kind of insider info, but I think we are all good colleagues, and we've gone through that project process. So I hope nobody is really upset when I disclose some of the issues we had. There is a process; let's put it that way. I would say the initial kick-off was the fact that I liked the 2012, I think it was, Sonnenberg and vom Brocke paper on these four types of evaluation in DSR. This paper never made it to a journal, for whatever reason. It's in DESRIST proceedings, and I think it's in some edited volume, and I like it very much. I recommended it in all the courses I gave and cited it very heavily because I found it very important to evaluate not only at the end of the process but also during the process. This already somehow points to the idea of an intermediate artifact, right? If you evaluate not only the final design or instance but also the problem understanding and the generic design and its instantiation and its use, we have four different types of evaluation. And I found this always very compelling to evaluate in parallel or concurrent with the design process. So the very initial idea of the paper was, together with Jan vom Brocke, to somehow lift it to journal level, to ambitious journal level, and better publish it and make it more visible to the community to have a kind of concurrent approach to designing and evaluating complex artifacts. That proved to be difficult because this idea of the intermediate artifact lacked theory. But we were able to gain a co-author: Tuure. And then we had this difficult phase based on the very early feedback from senior colleagues. Well, it's a nice idea. It's a good idea. But if you really want to get it into MISQ, it has to have a sound theoretical foundation. Then we came a long way by reflecting on potential theories to base the approach on. We came across this hierarchical theory of hierarchical systems, which I used in my dissertation and always liked. And then we had a good team and lots of discussion to somehow link that and apply it to DSR. Then we had a story. That story was appreciated by the senior editors and by the review

panel. They encouraged us to proceed. Proceeding meant going through several revisions. I'm speaking of MISQ revisions. So we're talking about 30, 40 pages of review reports and 40, 50 pages of reply to review documents. During this process, the concept matured. We were challenged to be more detailed and consistent. And finally, we were challenged to provide a really nice working example, which I took from our practice in St. Gallen to develop informal interventions as coordination interventions and enterprise-level coordination activities like architecture. So we had an idea, and that was concurrent evaluation. We had a theory; it was a theory of hierarchical multi-level systems. And we had a nice demonstration case. That then finally emerged into the paper that we see today. The review panel was very helpful in pointing us to all these little flaws and all these little inconsistencies that you have in a long paper. The real final challenge then was to shorten it because the paper became longer and longer and longer along the way. Then finally, after acceptance, they told us, Okay, you have to shorten by 30%. And that's always the most difficult thing, I guess. If you thought about every single word, and then you have to drop 30% of your paper, that's always a pity. But at the end, we have it at MISQ, and everyone is happy. But these were the most difficult and challenging decisions along the way.

[00:17:26] Sebastian Reiners

I think it's always very interesting to see the process behind it. Most people just see the paper; they might respect or see the amount of work that is there. But they don't see all the work that has been lost along the way, or not really lost, but got cut out along the way. Yeah, it's a tremendous achievement to publish what you publish. And again, I congratulate you for that.

[00:17:57] Robert Winter

I think, as I said, it goes not only to the co-authors, but also to the review panel. These people have really contributed to what we see today. Otherwise, it would never have gone that far and become that good.

[00:18:12] Sebastian Reiners

I totally agree. Maybe we can abstract a little bit. You already talked about the potential contributions of your paper and what you hope to achieve, and maybe we can put that into a very special perspective, the perspective of young DSR researchers. I mean, you have taught these DSR courses for a lot of time, and you have taught a lot of young researchers how to conduct DSR. Maybe you can give us some insights or some recommendations for young researchers regarding their publishing in design science research, maybe in relation to a paper or something more general. How should young researchers go about publishing DSR?

[00:18:57] Robert Winter

Yeah. Well, I have PhD students. So at the end, I can very well relate to the challenges that you see in your first year and your second year when you're doing your first few submissions, getting your first few rejections, and somewhat struggling with getting your stuff published. One strategy that you could develop after the first few rejections or negative feedback would be to simplify. That's something that I really dislike in the discipline: the tendency to come up with simpler, easier, better publishable stuff in DSR because, at the end, our world is not becoming easier and simpler. It's becoming more complicated. What we need in terms of innovative solutions is becoming more and more complex. So there is a need to delve into complexity, to look at problems that really matter, that have multiple stakeholders, that create tensions, that are not purely technical, not purely organizational, that go beyond a simple machine learning model, that go beyond a simple efficiency gain in a certain process step. So to look at the real interesting stuff and then use this excellent approach and other mature and interesting papers that come out, for example, on design principle construction or on dealing with certain issues in organizations, use these modern references and not only the old stuff to present a paper that, for example, only covers an intermediate artifact or only

covers a certain aspect of the problem. Don't lose the whole complexity and the whole interesting problem only because you cannot publish it in a simple conference paper. But think of a portfolio of papers and try to get your echelons through in order to cover, in your cumulative dissertation, for example, the entire problem. Do not oversimplify and go the simple way and the easy way, because at the end, the simplistic and easy artifacts won't really help society and won't really help the discipline. So that's why I hope that these kinds of modern guidance papers have an impact and that we see more DSR submissions in journals. The more papers submitted to open calls, the more relevant our discipline will become. That's important because, for example, I'm now editing a special issue in one of the basket journals. Our call and many other calls are open. So we are open for quantitative research, qualitative research, and design research, of course. We need design-oriented submissions because if we don't have submissions, we can't get them into the special issue. So I really want to encourage people to look at the real problems, to look at complex things, and to publish many papers. Try it several times. The guidance is there. In the meantime, don't always look at Hevner et al. (2004) and Peffers et al. (2007). There is more modern stuff that we need and that we should use. Also, of course, these papers are wonderful, and I myself often cite them.

[00:22:45] Sebastian Reiners

If I listen to you right now, it feels like you're not only encouraging young researchers to follow a different approach, but also the entire design science field. So, would you say that is your recommendation for the design science field? Just try to break up the old processes and try to be more intermediate. You framed it like we want to publish intermediate results to still have the proper complexity. Is that your recommendation for the design science field?

[00:23:16] Robert Winter

Yeah. Even go beyond the IS. So, for example, we have this wonderful initiative that we see that design-oriented thinking and design-oriented approaches become more visible and more important than other disciplines, like, for example, entrepreneurship, and there's also e-health, education, and maybe even accounting and other fields. So there is a world beyond the basket, even of good journals. I would say the new rating of the VHB is a little bit broader. It is more comparable to other fields. So don't be restricted, or don't restrict yourself too much, to a narrow set of conferences or a narrow set of journals. But try to find interesting problems, develop relevant solutions, and publish them in pieces at outlets where they belong and where they probably relate in terms of health or auditing or in terms of a certain industry like energy or whatever. The field is so broad, and if you basically stick to a very small set of references and publish in a very small set of outlets, of course, that restricts the overall impact of the discipline.

[00:24:43] Sebastian Reiners

All right. Thank you. Thank you very much for your insights. I am done with my set of questions about the paper and your perspective on the design science field, and I think it was very insightful. So I would like to thank you very much for your time today and would like to give you the opportunity to share maybe any insights that you wanted to share anywhere that I forgot to ask. Is there anything left for you?

[00:25:08] Robert Winter

Yeah, thank you very much, Sebastian. That was an interesting talk. Interesting questions that make me think about certain things. I probably have already talked too much. It is close to much of the process. Maybe two personal opinions and recommendations on the field. But I would really love to see the states that we reached, especially in the European communities. I would like to see that sustained on an international level and also sustained beyond IS as a kind of intermediate discipline between computer science, organizational science, and organizational psychology. There's so much that deserves to be

approached by human researchers. I would really love to see more people in DSR courses, more people doing DSR, and more people daring to publish their intermediate or complete artifacts in outlets to create impact, because that's what we need.

[00:26:22] Sebastian Reiners

I agree. I hope we see a lot of DSR research to come and a lot of people citing your work to really accomplish this perspective and this future. Thank you very much, Robert.

[00:26:32] Robert Winter

My pleasure. All the best, Sebastian. Bye bye.

END OF TRANSCRIPT