DSR ACADEMY

19-11-2024 JAN VOM BROCKE – TRANSCRIPT

2 SPEAKERS
Marleen Voss
Jan vom Brocke

Duration
29m 04s

START OF TRANSCRIPT

[00:00:04] Marleen Voss
Hi, Jan.

[00:00:06] Jan vom Brocke
Hi, Marleen.

[00:00:06] Marleen Voss
It's great to have you here today as our interview partner. And we want to talk about your paper you published in the Journal of the Association for Information Systems. The title of the paper is Accumulation and Evolution of Design Knowledge and Design Science Research: A Journey through Time and Space. Maybe you'd like to start with an introduction of yourself shortly.

[00:00:33] Jan vom Brocke
Thank you very much, Marlene. I'm very excited to be here. Thank you so much for taking the time. So, my name is Jan, and I'm a professor with the University of Münster and director of the European Research Center for Information Systems. More importantly, I'm very excited about design science research because I think it's a fantastic opportunity to do research that actually can contribute to real-world problem-solving. So this has always inspired my work. I have also been very happy, together with the esteemed co-authors here, to have had the opportunity to publish this JAIS paper you mentioned.

[00:01:13] Marleen Voss
Thanks. Yeah. You have a couple of papers in this field, but our focus today is on the paper I mentioned before, together with Robert Winter and Alexander Maedche.

[00:01:27] Jan vom Brocke
And Alan Hevner.

[00:01:27] Marleen Voss
And Alan Hevner. Okay. So my first question would be, why did you write the paper in the first place?

[00:01:38] Jan vom Brocke
I think I am very driven over a couple of years by the vision or the idea that design science research really is not a linear process. Even though some models would suggest that or have been interpreted in a way that we kind of run through various phases. And that kind of, in a more or less linear way, progress from understanding the problem towards defining objectives. Then coming up with a design. Then demonstrating and evaluating, which I think is great in terms of structuring the different types of activities we conduct in design science research. Yet my own experience always was that the real design science research in the real

world is never that linear. And of course, I think also the authors of those models who have been interpreted in a very linear way—they haven't meant it to really suggest this is linear. But I think that this sort of linear approach sometimes stands in the way because it takes a long time to go through all phases. Also, if you run through those phases in a linear way, you kind of do not learn much from the result of the one phase. If you plan all phases up front and then you kind of fall short in kind of taking into account what you've learned in the one activity, feeding that into the next activity. So, I think I'm very driven, together with the co-authors and many colleagues, by this idea, which is kind of the subtitle of this paper, that design science is a journey through space and time. Meaning that we start somewhere and do something in order to better understand the problem and learn about potential solutions. We should be very awake and be very sensitive towards what we learn and only then decide where to go next, right? If we circulate again and better understand the problem, or if we carve out a sub-problem, or if we try out a solution and then go back to see, would this solution really be kind of a solution to a perceived problem? And how can we probably further develop that? And so really do it your own way. I've always been a great fan of doing design science research the way you would like to do it, and you can do it. Regarding your objective, your constraints, and the opportunities you also face in a certain project, I think this is very much here in this JAIS paper—the opportunity to present this thinking. If I go back, I think we worked on the evaluation in design science together with Christian Sonnenberg. We have this one paper where we looked into this concurrent evaluation that already was kind of part of this thinking that we should not evaluate as an afterthought. But really, as we go, in order to learn and feed into the design process what we have learned in earlier phases, then we worked on the journaling design science research. So keeping a logbook of what you have done as opposed to executing sort of a linear process to say, Okay, I really do it my way. But of course then I need to be transparent. What did I do, and why did I choose to do it that way? And so we were thinking, Okay, can we keep a journal? Right. Can we keep a logbook of really what we have done? And we developed this design science process tool in a research project that enables fellow researchers to keep a logbook of their work. And again, I think this was kind of part of this thinking that we really should be very sensitive to what the research opportunity we have. And also the new eDSR paper, the echeloned Design Science Research paper, which Tuure was so nice to introduce here also in these sessions I think is also on exactly this path towards more sensitive, agile, evolutionary emergent design science research as opposed to executing kind of a plan. I think this JAIS paper has now really been an important milestone in better understanding what that is. It makes the key contribution, I think, that we unpack design knowledge. So we say, okay, design science research is to accumulate design knowledge. Now, how can you do that? And you can do that in many ways, which we kind of discussed more in the paper. And so that I think has been an important milestone. But it really kind of falls within this vision to say, Hey, we need to be sort of more sensitive, more agile, more evolutionary in design science research.

[00:06:33] Marleen Voss
A more dynamic journey with lots of iterations and evaluations in between.

[00:06:39] Jan vom Brocke
Exactly.

[00:06:39] Marleen Voss
Yeah. So how would you summarize the key idea of the paper?

[00:06:44] Jan vom Brocke
Well, I think the key thing is really to unpack design knowledge, and also to put the generation of design knowledge at the center of design science research. So, design science research is research to accumulate design knowledge. And then we talk about what design knowledge is. For me, one thing that was really interesting in the discussion with the colleagues was to better understand that design knowledge is also not only the solution, but it really is kind of a problem-solution relation. This may sound a bit technical, but I think if you think in entity relationship models, for instance, you would have two entity types, the problem and the solution. And then you have the relationship in between, and so it's always a relation. Then you can discuss whether there is a solution without a problem at all. Is there a problem? Is that already design knowledge? Know that something is a problem. Or would you always at least have an idea about kind of how you would like to solve it, right? And even if the solution would not be there, you might have kind of requirements for a solution. So you always, and that's kind of what we then presented in this paper, we kind of define design knowledge as a relation between problem and solution. And the relation very much in the paper we put forward is the evaluation to what extent this is really sort of confirmed that a solution may qualify as a solution for a problem. And then also we discussed design knowledge as we contribute design knowledge in the journey; we discussed various different moves how you might want to generate design knowledge. And what I find also from working with a number of PhD students and junior academics in seminars on design science, which I find super interesting still, and we refer to a lot, is these two dimensions of the projectability of design knowledge on the one hand, and then also the fitness of design knowledge. So design knowledge can be very situated in a real-world phenomenon. So there could probably be this one solution to this one problem that is already design knowledge. However, we would always discuss, Okay, now to what extent is this a research contribution, or is it just solving one problem? So we try to generalize. We try to increase the projectability. So also, what we have said is that it's not a solution as such, but it's a general solution. Right. It's a solution more for problem space rather than just for one situated problem. We try to always move upwards with the projectability. So we want design knowledge that is not only applicable in the one situation but in a number of situations. So it's not just one company, but the whole sector or financial service institutions in a region, and then all organizations. There are so many various levels of projectability, and you kind of need to be very transparent. What is the level you'd like to contribute to? Right. Also, at the same time, it's fair enough to start very situated. It's actually something we recommend very often that you start really deep down in one case. But then in the paper later on in the research, you would always like to try to increase predictability from one hand, at least discuss kind of the boundaries and how you can kind of increase projectability. At the same time, we talk about fitness, and I think you can relate to that. Sometimes you have design knowledge, which is super useful. You need to build this cupboard. And here it is telling you, you know, kind of the manual, saying do this, do that, do this, do that. That is super fit because it's very prescriptive. It's very actionable. At the same time, the more prescriptive and the more actionable, the more bound to a certain context. It's exactly a cupboard, right? It's not cupboards in general. So we also discuss that there is a natural trade-off between fitness. On the one hand, you want something very, very useful, very practically useful. Design knowledge is applicable right away, and it's very useful. But that comes with high context specificity, so low projectability. And often, when you increase projectability, this often is at the cost of fitness. So, something like technology acceptance. Make it useful and easy to use kind of is design knowledge. It's very projectable. The fitness, okay, you can discuss. If you enter like a board of directors, and they struggle with how to use AI, and you say, I know how to do it. Make it useful and easy to use.

[00:11:40] Marleen Voss
And easy to use.

[00:11:41] Jan vom Brocke
Yeah, they might not be excited about your advice. And so you need to kind of, within that space, you need to move around. And there we discussed various different moves. Sometimes you abstract, then you generalize, then you contextualize. And we kind of in this paper argue towards starting somewhere where it makes sense, also where others have stopped, and kind of you stand on the shoulders of giants. So you kind of start somewhere, but then you're very clear. You kind of position what step you would like to make. And we allow for tiny steps, or we advise for tiny steps. We talk about design knowledge chunks. Right. We don't say a big artifact. We don't say a theory. We say it's chunks. So, we all kind of contribute little chunks. But it's very important to say where the chunk starts and where you intend to go. Then deliver that in a rigorous way and publish it in a transparent way, so others again can build on your chunk and further develop it. And sometimes your design science research might be that you take something that is more abstract, and you kind of try to contextualize it by means of reducing probably the projectability but adding fitness to it. So make it more specific, more actionable at the cost of projectability, but for the sake of fitness, and sometimes it's exactly the other way around. You find somebody who may have found great use cases of GenAI in a certain company, and you ask yourself, Okay, how can I abstract from this single case towards maybe a higher projectability, maybe at the cost of fitness? Okay. But you know, it's a very specific move. And so we say there are this plethora of valid moves. But you need to be clear and transparent about the move you are aiming for.

[00:13:43] Marleen Voss
Yeah, it sounds like it's a good addition to the two-by-two we have; we talked about the solution and the problem. So is this a new problem or a new solution.

[00:13:56] Jan vom Brocke
Right, exactly.

[00:13:56] Marleen Voss
It's a good addition to that framework as well.

[00:14:00] Jan vom Brocke
And it's probably, I love the framework also there, but this one you can apply very fine-grained. We don't say it's not a two-by-two in our case, but it's kind of really a continuum. You could say it's high and low, and you could really define that in your research. And then we come up also in the paper with a couple of recommendations. So you should sort of clearly position kind of what's the chunk. What's the move you'd like to make? Then you need to ground. So what are the chunks you stand on? Then we talk about the alignment. So if you do a move, it really needs to really contribute to the move and not only have a kernel theory and some design. But really have a good alignment between the step you like to make and then kind of also what informs this. Of course, in the end, the contribution needs to be very clear and say, Okay, that's really the advancement this design research has made. Actually, I'm really always in favor of tiny steps but rigorously crafted relevant steps that build on other steps. Probably also relating to this paradigm. We always think that it's really an accumulative endeavor. So design science research is never something I do on my own, and I kind of finish this. Our mindset here very much is, Hey, we are a community, and we can all contribute, and we should all contribute.

[00:15:34] Marleen Voss
It's a journey.

[00:15:35] Jan vom Brocke
And it's a journey we all do together, you know? So it's actually many journeys.

[00:15:42] Marleen Voss
Okay. What is the main contribution of the paper you are particularly proud of?

[00:15:50] Jan vom Brocke
Well, I'd say first of all, if I think of this paper, I enjoy the conversations we had around the paper. So probably I'm most not proud, but I'm very happy about the opportunity that I could work together here with Robert Winter, Alex Maedche, and Al Hevner. And this goes back many years. I taught design science research with Robert since now—what is it—close to 20 years in various PhD courses at various universities. And this is very close to my heart because I always realized, Hey, students struggle; I do struggle. If I need to set out the layout for design research, which goes through all those phases, and today I plan how I am going to evaluate it in two years or three years time. The artifact, which is a novel solution to a problem I have hardly understood in the very beginning. And of course I have no clue of the solution, really. And then technological progress. Imagine three years ago, we would have thought of a solution. Maybe never thought of AI or GenAI. And now every PhD seminar is full of GenAI use case ideas, right? So also, both in the problem space and the solution space, we make so much progress that I've always really thought, Uhh, and we teach agile methods in software engineering. I always thought, Why are we so non-agile, right? I kind of always felt a bit of shame for being so waterfall-y and saying, That's how we do design science research. So I kind of always really felt that. And then, together with Robert, for a long time—years—we discussed this. Which you can imagine is always, you know, very short on time and kind of making progress in kind of getting that into some really tangible ideas and a paper. So it was an amazing journey. And then, together with Alex and Al, that, of course, was super inspirational to challenge our own thinking. And we met at a number of conferences and in Saint Gallen, Liechtenstein, and Münster over the years. And so, I think, that was very, very fruitful. And I enjoyed that. And now I'm proud to have been able to put that into a result.

[00:18:20] Marleen Voss
Also a journey.

[00:18:21] Jan vom Brocke
That we arrived at some point. I'm really proud of that. And then probably content-wise, of course, I'm happy that there is some sort of reference for all of those who say, you know, I'm doing a part journey, right? I'm doing a short trip; I'm doing a sprint. I'm doing a trip kind of towards certain bigger objectives in design science research. All these colleagues can use this paper to ground their work and also to find some on the one hand to legitimize kind of also doing smaller steps in design science to publish also smaller steps in design science. But also readers find some guidance on how to do that and how to write that up in a rigorous way.

[00:19:07] Marleen Voss
Yeah, cool. Yeah, to have a bit of an orientation.

[00:19:11] Jan vom Brocke
Yes.

[00:19:11] Marleen Voss
Is always helpful. Yeah. Would you change something in the paper if you write it now?

[00:19:17] Jan vom Brocke
For sure. I'm sure because it's a journey, and so many things change all the time. Our thinking progresses. That's one particular thing, actually, that I have never discussed with my co-authors. So maybe I might after this recording. We conceptualize design knowledge now as a relation between problem and solution, and the relation we call evaluation. And that's good; I think that makes a lot of sense. Well, now in my own discussions and thinking and teaching and so on, I ask myself, is it really only the evaluation, or is it not design or evaluation? Kind of also, in relation to the design science framework. That kind of the core activities in design science would be design and evaluate. We try to design and evaluate concurrently innovative solutions to real-world problems, and at that point we were very evaluation-driven in our thinking. But I think I would probably now say it's design/evaluation. Right. And you could also say, Okay, probably my colleagues now would argue in favor of keeping evaluation by saying, Okay, even if you have not evaluated, it may be a very weak evaluation because it's just that you're thinking that there might be a relation. Okay, maybe. But I think it probably would be nice that this is something I would argue for discussing further to change that probably the relation between problem and solution is not only evaluation but its design/evaluation.

[00:21:02] Marleen Voss
Okay. Yeah. Great idea. Yeah. So you have done lots of design science research courses. What would you recommend to young design science research researchers regarding publishing design science research in IS with respect to your experiences?

[00:21:21] Jan vom Brocke
So first of all, I would recommend doing design science research. So I think that's really it, and that is because it's close to my heart. And I always do encourage doing design science research. Now why? One reason is it's an opportunity to contribute to problem-solving and to bettering the world. And that sounds like big words, of course, but as I said, tiny steps are something that we can all do. But it's great to take tiny steps that eventually lead to something bigger and to actually helping people to live a more healthy life. To live in a more secure environment and to live a more social, more environmentally friendly life. I think that is super rewarding and encouraging in my own work. And I also see with the students we work together. So it is also very motivating for them to see, Oh wow, I can actually, you know, I can change things; I can do that. And I'd like to empower and give young academics and students the confidence to say that whatever you do in information systems, you could actually make a contribution to real-world challenges. And then, of course, the world is full of real-world challenges, right? And then maybe the next recommendation would be to start somewhere, right? Don't overthink it. Do it. And then, according to kind of what I shared with you with this article and also with the eDSR article or the journey journaling article, sort of do it your way, right? Don't think that this is a super big thing. I need to develop the new world-changing solution artifacts, theories, and whatnot. No. Think in terms of, Okay, what can I do? Like, what's my research opportunity, right? So what's my environment here? Who can I talk to? And then do it with the interest in mind to generate design knowledge. But just do what you can do, and then be very open and honest about what you have done

there. Be transparent by, for instance, keeping a journal and then arguing why, in your situation, in your research context, that made sense. And if you do that, then you also have super nice rigor in your research. And if you have that, you can publish design science research everywhere. Sometimes we still discuss whether you can publish, or junior academics would say, Should I not do the more conventional because it's better to publish? No, no, no. On the contrary, I see there's a big appetite at the moment for research at business schools, specifically to do something meaningful. And they will be challenged more and more regarding the impact and what actually really comes out. And here's the opportunity, right? So design science research is a big opportunity for that. So it's not only rewarding; it's also great for a career. It's the future. It's good for society. So I think there are so many reasons to engage. Also, it's a super nice community. They're very friendly people. I have been welcomed to this community very openly, and I'm very grateful for that. If you go to the Design Science Research conference, for instance, or if you go to our AIS conferences and related tracks and meet all those people, you will see that. And I think that's also something very, very nice.

[00:24:41] Marleen Voss
That's a good point. It brings me to the next question. What do you desire for the design science research field?

[00:24:49] Jan vom Brocke
I desire for the field to grow. I think it is good for society. It's good also for our information systems community because we can demonstrate relevance and impact. So I'd like to see kind of the information systems discipline and our AIS as an association also be more recognized for the great things we are doing there and for what we can do through information technology. And the world is full of fantastic information technology. It's also full of problems. So we have a super-rich solution space, and we have a super-rich, to put it positively, a problem space. And now our discipline can really bring that together in terms of creating social-technical solutions to real-world problems. And they are all sociotechnical. There is no purely technical solution. So I think it would be wonderful to see more design science research. Also, in a kind of self-critical manner, I'd like to see more really impactful design science research. I want to see more but also see more impactful, meaning also that in our community, we should practice more what we preach. We should do more projects, not only papers like this one, talking about how to do it, but actually do it. So that would be really great, and we are; of course we are doing that. But I'd like to encourage more of that research.

[00:26:18] Marleen Voss
Yeah. Do you have any recommendations for other researchers?

[00:26:22] Jan vom Brocke
Engage. Enjoy the work you're doing. But yeah, engaging is probably the key thing. And engage with academic colleagues, with students, and also with industry and with society. So I love that, and at ERCIS we're founding many of those lab environments now. And that, for me, is a beautiful setting where we invite people from industry and people from government. We invite students, we invite our researchers, and we invite fellow researchers from other countries. And then we jointly engage in generating solutions for real-world problems. So design as a paradigm for future research, for future education, for future transfer. And I'm not sure maybe I overdo that, but for me, this is the ideal environment because there's no better way to learn than to work on a real-world problem. It's super motivating, right? And also, you cannot just prompt and find the solution. But you know, you need to engage, discuss, and build something. I think for learning,

it's fantastic. It immediately generates value to society, to industry, and also for research. It's a plethora of kind; it's an ocean of opportunity. You generate data; you find out new solutions in disciplines. And of course, you also find new ways to find solutions. And so I think it's kind of through this engagement we can advance so much. And that's kind of what I would love to see more of or what I would like to recommend everybody: stand up, leave your desk, go out there in the wild, engage with real people, and try to contribute what you can to joint solutions. And that, of course, also includes very many other disciplines and other regions around the world. The more, the merrier.

[00:28:23] Marleen Voss
Perfect. Yeah. So thank you very much for these insights. It was really inspiring to hear your thoughts about design science research. Do you have some last comments?

[00:28:37] Jan vom Brocke
I'd like to thank you very much, Marleen. That was super nice. And you really got me going with my thinking. So I enjoyed that very much. And thank you also to everybody involved in this initiative and this project and for funding this so we can generate this kind of material. I think it is very super nice. Yeah. Thank you.

[00:29:01] Marleen Voss
Thank you very much.

[00:29:02] Jan vom Brocke
Thank you very much.

END OF TRANSCRIPT