Towards a Configurative Publication Schema
for Design Science Research

Abstract

Design science research (DSR) has matured and gained acceptance as an appropriate information systems research method. Despite the increasing number of DSR publications there is still no common sense and no comprehensive guidance how to present DSR in scientific literature. Therefore, this paper investigates the potential of a configurative DSR publication schema by means of a reference model allowing the deduction of concrete publication schemas. These schemas provide more detailed advice depending on the particular research context, such as the intended artifact type, the evaluation method, or the knowledge contribution type. By identifying configuration parameters (through an investigation of 13 DSR meta-analysis papers) and common configurations (through a meta-analysis of 52 DSR journal publications) we lay the foundations for a configurative reference model which can be adapted to provide detailed guidance in concrete DSR publication situations for both authors and reviewers. A detailed example sketches the future artifact.

Keywords: Design science, design research, meta-analysis, template, IS research

Introduction

Design science research (DSR), i.e. the construction of socio-technical artifacts intended to solve organizational problems (Gregor and Hevner 2013; Hevner et al. 2004) has gained acceptance as an appropriate information systems (IS) research method within the last years. A continuously increasing number of DSR-based articles even in high ranked journals, special issues for DSR (e.g. EJIS, JAIS, ISR, and MISQ; cf. Baskerville et al. 2011), and dedicated conferences such as DESRIST or conference tracks illustrate that DSR supplements behavioral research in a meaningful way. However, there is still a need for support in how to publish (and to review) DSR contributions (Goes 2014; Gregor and Hevner 2013) – in particular in communities having focused on behavioral research in the past.

In accordance with Gregor and Hevner (2013), Dwivedi et al. (2014), Goes (2014), and van Aken (2014) we see the potential that additional guidance in DSR publishing increases the paper quality, reduces efforts for reviewers (and supports them in assessing papers adequately), and finally leads to higher acceptance and usage of the DSR paradigm. In addition, it might improve scientific collaboration and foster the dissemination of DSR research results. Appropriate guidelines might be facilitated by the fact that DSR is rather well structured, e.g. in terms of established DSR artifacts (e.g. March and Smith 1995), processes (e.g. Peffers et al. 2007), and evaluation techniques (e.g. Siau and Rossi 2007). Such guidelines, for example in the form of a publication schema suggesting structure and content elements, are subject to a common tradeoff: Either they are rather generic and can be applied to many publication situations or they are rather detailed and can only be used in a certain context. Publication situations are characterized by
the intended artifact type, the application domain, and other publication-specific parameters. In such cases an approach might help that considers common situations and provides specific, situational guidance. Situational method engineering (Brinkkemper 1996) or configurative reference modeling (Becker et al. 2007) serve as good examples for the design of such situational artifacts.

It is common practice to structure DSR publications according to DSR processes, as proposed for example by Peffers et al. (2007). The DSR processes, however, don’t take situations, such as the artifact type to be designed, into account. This shortcoming motivates the paper at hand which aims at answering the following research questions: (1) Do situational factors have impact on a DSR publication schema? If yes, what are the situational factors? (2) How should an according (potentially situational) DSR publication schema be designed?

The remainder of the paper is structured as follows. We give an overview of related work providing guidelines for DSR publications. Following, we present the research methodology which is based on configurative reference modeling. The complete specification of a configurable DSR publication schema is beyond the scope of the paper. However, we identify configuration parameters and conduct an empirical analysis to derive common publication situations. Explaining the next steps and an example sketches the final artifact. We conclude the paper with a short summary and outlook.

**Foundations and Related Work**

After a short introduction to DSR foundations we give an overview of related work that might provide support for DSR publications. Besides contributions about DSR processes (“How to design an artifact”) we focus on papers with dedicated DSR publication guidelines (“How to design and evaluation steps. Well-known references are (Hevner et al. 2004), (Peffers et al. 2007), and (Vaishnavi and Kuechler 2008). All of them describe rather generic DSR processes than providing detailed guidance for specific artifacts or design situations (Gregor and Hevner 2013). Many DSR publications refer to these DSR processes and conduct design research by following a methodology using more or less the same steps on a high level (develop/build – justify/evaluate (Hevner et al. 2004)).

Not surprisingly, established DSR processes also serve in numerous articles as guidance on how to structure the paper (i.e. serve as a publication schema). Further advice for DSR processes can be found in references for certain artifact types or evaluation methods (such as (Sein et al. 2011)). However, to the best of our knowledge the majority of publications in this category focus on the research methodology and/or how to present the artifact (e.g. by providing a meta-model), but again do not cover in detail the presentation of the whole research process.

Contributions like (VanderMeer and Tremblay 2013), (Chen 2011), and (Baskerville et al. 2011) list potential publication outlets for DSR. However, little work is available that focuses on guidance on how to present DSR, e.g. in terms of a publication schema. At least, the recent publication of Gregor and Hevner (2013) aims at providing support for presenting DSR. By means of a DSR knowledge contribution framework the authors identify four types of contributions. Depending on the maturity of the problem context and the maturity of already existing artifacts that can serve as starting points, the types ‘invention’ (low application domain maturity/low solution maturity), ‘improvement’ (high/low), ‘exaptation’ (low/high), and ‘routine design’ (high/high) occur. Gregor and Hevner also present a publication pattern for DSR contributions with the following sections: introduction, literature review, method, artifact description, evaluation, discussion, and conclusions. As already admitted by the authors themselves, this publication schema is high-level and generic and needs further refinement (Gregor and Hevner 2013).

In IS literature a few meta-analyses regarding DSR publication practices can be found. Table 1 gives a detailed overview of the results of a comprehensive literature review and provides additional information, such as the analysis subject and the sample basis. The papers investigate various DSR topics and their representation in publications. In most cases, the analysis results aim at providing insights on how to conduct DSR research rather than guiding DSR publications (apart from (Offermann et al. 2011)).
Nevertheless, previous meta-analysis on DSR can help answering our research questions, as we examine in a later step if the analysis subjects might serve as configuration parameters for a DSR publication schema.

### Table 1. DSR meta-analysis contributions in the IS domain

<table>
<thead>
<tr>
<th>(Offermann et al. 2010)</th>
<th>DESRIST'2010</th>
<th>Artifact type</th>
<th>DESRIST proc., MISQ special issue</th>
<th>2006–2009</th>
<th>62</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Piirainen et al. 2010)</td>
<td>DESRIST'2010</td>
<td>Citation analysis</td>
<td>ISI Web of Science search</td>
<td>Until 2008</td>
<td>45</td>
</tr>
<tr>
<td>(Offermann et al. 2011)</td>
<td>DESRIST'2011</td>
<td>Standardized abstract templates</td>
<td>DESRIST proc.</td>
<td>2006–2010</td>
<td>70</td>
</tr>
<tr>
<td>(Ayanso et al. 2011)</td>
<td>DESRIST'2011</td>
<td>DSR in database research</td>
<td>ISR, JMIS, MISQ</td>
<td>Until 2007</td>
<td>76</td>
</tr>
<tr>
<td>(Becker et al. 2011)</td>
<td>DESRIST'2011</td>
<td>Artifact types in service science, mgt. and engineering</td>
<td>Database search</td>
<td>Until 2010</td>
<td>78</td>
</tr>
<tr>
<td>(Gäß et al. 2012)</td>
<td>DESRIST'2012</td>
<td>Anatomy of input knowledge bases</td>
<td>7 IS &amp; 10 CS journals, 3 IS &amp; 5 CS conference proc.</td>
<td>1980–2011</td>
<td>53</td>
</tr>
<tr>
<td>(Dwivedi et al. 2014)</td>
<td>DESRIST'2014</td>
<td>Knowledge contribution type</td>
<td>DESRIST proc.</td>
<td>2011–2013</td>
<td>56</td>
</tr>
<tr>
<td>(Drechsler and Dörr 2014)</td>
<td>DESRIST'2014</td>
<td>Artifact type</td>
<td>MISQ</td>
<td>Until 2014</td>
<td>4</td>
</tr>
<tr>
<td>(Gregor and Hevner 2013)</td>
<td>MISQ, 2013, 37(2)</td>
<td>Knowledge contribution type</td>
<td>MISQ</td>
<td>2006–2011</td>
<td>13</td>
</tr>
</tbody>
</table>

Overall, previous DSR literature offers only very limited advice for DSR publication schemas. These shortcomings motivate our research objective which can be formulated as follows: We seek for a publication schema that is (a) detailed, (b) comprehensive (i.e. covers all aspects/sections), and (c) configurative (i.e. supports various publication situations). The need for (c) will be examined below.

### Research Method

We regard the DSR paradigm as appropriate for answering our research questions, as we target at creating a solution (artifact) to a specific problem of practical relevance. Since we also utilize empirical methods (cf. below), our multi-method approach aims at enhancing research validity and reliability (Scandura and Williams 2000). The target solution, a so-called publication schema, is according to our understanding a detailed paper structure in terms of sections (and subsections, etc.), with a well-defined order, and meaningful headings of these sections. In addition, content within sections is described by so-called ‘information objects’. We have chosen the reference modeling approach to represent such a publication schema. According to Becker et al. (2007, p. 27) reference models are “information models that are developed with the goal of being reused for different, but similar purposes”. In the light of the benefits of reference models in the context of IS design, we expect the following advantages by using this artifact type: accelerating the development of DSR publications, helping to communicate best practices, and reducing the risk of failure (Ahlemann and Riempp 2008). Configurative reference models overcome the trade-off between generality (a quality criterion of DSR artifacts according to (Winter 2011)) and utility by comprising rules which allow automatic modifications of the original reference model depending on the specific context (Becker et al. 2007). Becker et al. (2007) present a framework for configurative reference modeling which we can use to describe our final artifact: The publication schema can be assigned to the ‘model layer’ and the main configuration mechanism applied to it is the ‘element selection’. The notation of the reference model is flexible. However, it has to present the aforementioned elements (section composition/order/headings, and information objects).
Towards a Configurative Publication Schema for Design Science Research

Configurative reference modeling requires in our context two steps: identification of configuration parameters and identification of configurations for which models (i.e. publication schemas) can be derived from the reference model. Both steps will be described in the following section. Our approach corresponds to the methodology for situational artifact construction as proposed by Winter (2011).

Design of the Configurative DSR Publication Schema

In the following, we identify configuration parameters which have an impact on the publication schema of a DSR contribution and subsequently show that (a) different and (b) more or less common DSR configurations exist. Finally, we take advantage of these insights by illustrating how a configurative DSR publication schema could be designed and sketch a detailed example of the future artifact.

Identification of Configuration Parameters

We consider two sources as relevant for identifying the configuration parameters: DSR specifics (as they constitute the differences to generic (IS) research papers) and parameters that have already been identified by previous literature. There is consensus in the DSR community that Hevner et al.’s (2004) so-called 7 guidelines (GL) explicate DSR specifics precisely. Our literature review and comprehensive examination of previous meta-analysis papers and their analysis subjects (cf. Table 1) lead to two additional potential configuration parameters: the knowledge contribution type (Gregor and Hevner 2013), and the scope which has been introduced in a similar manner in (Offermann et al. 2011) and which characterizes in our understanding if the designed artifact is rather generic or domain-specific. In order to determine if these nine potential configuration parameters have indeed impact on a publication schema (i.e. will result in different concrete schemas), we investigate in Table 2 if a potential parameter (in rows) affects sections of the high-level publication schema as introduced by Gregor and Hevner (2013) (in columns). We indicate our findings, resulting from intensive discussion among experienced design science researchers, by crosses in the table cells. For example, the artifact type (GL 1) has impact on Section 4 ‘Artifact Description’. Further examples will be presented in the remainder of the paper.

| Table 2: Impact of potential configuration parameters on a generic DSR publication schema |
|-------------------------------------------------|-------------------------------|
| GL 2: Problem Relevance                          |                  |                  | X         | X                       |             |             |             |
| GL 3: Design Evaluation                          |                  |                  | X         | X                       |             |             |             |
| GL 4: Research Contributions                     |                  |                  |           |                         |             |             |             |
| GL 5: Research Rigor                             |                  |                  |           |                         |             |             |             |
| GL 6: Design as a Search Process                 |                  |                  |           |                         |             |             |             |
| GL 7: Communication of Research                  |                  |                  |           |                         |             |             |             |
| Knowledge Contribution Type                      |                  |                  | X         | X                       | X           | X           |             |
| Scope                                            |                  |                  | X         | X                       | X           | X           |             |

Apparently, not all guidelines directly affect sections of a DSR publication. For example, problem relevance (GL 2) has no impact on any specific section since it is included as an inherent part in each scientific publication in order to motivate the research topic. Based on the insights of Table 2, we consider the following configuration parameters as relevant and discuss potential values for each parameter:

Artifact Type (GL 1): There is meanwhile a certain consensus about the major DSR artifacts designed by a DSR process. While Hevner et al. (2004), March and Smith (1995) and many other authors regard constructs, models, methods, and instantiations as the DSR artifact types, the recent publication of Gregor and Hevner (2013) assigns design theories as an additional artifact type to prescriptive knowledge.

Evaluation Method (GL 3): Regarding the appropriate evaluation methods a more diverse understanding can be found in literature (e.g. Hevner et al. 2004; March and Smith 1995; Siau and Rossi 2007). For a detailed overview and discussion we refer to (Cleven et al. 2009). After consolidating the references
and considering the meta-analysis conducted in (Arnott and Pervan 2012) which shows that not all potential design evaluation methods are used in practice, we have chosen these parameter values: action research, case study, controlled experiment, expert interview, field experiment, focus group, formal proof, informed argument, scenario, simulation, and survey.

Knowledge Contribution Type: We use the knowledge contribution type values introduced by Gregor and Hevner (2013) for this parameter, i.e. exaptation, improvement, invention, and routine design.

Scope: We differentiate between artifacts for generic vs. domain-specific solutions. Examples are a conceptual model for project management (generic) and a method for business process modeling in healthcare (domain-specific).

Intentionally, we have decided to not add the design method as a further configuration parameter. The observation that few authors present their design method in detail is also reflected by the fact that none of the meta-analysis papers (cf. Table 1) investigates this subject. However, we still see some value in considering the design method as well in a publication schema, but leave it currently to future work. In such a case the overview of design methods in (Werner et al. 2014) might serve as a starting point.

Table 3 summarizes the configuration parameters and their values by means of a morphological box.

<table>
<thead>
<tr>
<th>Artifact Type</th>
<th>Construct</th>
<th>Design Theory</th>
<th>Instantiation</th>
<th>Method</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation Method</td>
<td>Action Research</td>
<td>Case Study</td>
<td>Controlled Experiment</td>
<td>Expert Interview</td>
<td>Field Experiment</td>
</tr>
<tr>
<td>Knowledge Contr. Type</td>
<td>Exaptation</td>
<td>Improvement</td>
<td>Invention</td>
<td>Routine Design</td>
<td></td>
</tr>
<tr>
<td>Scope</td>
<td>Generic</td>
<td>Domain-Specific</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The large number of parameter value combinations results in 440 unique schema configurations. To avoid the modelling of uncommon or even in real world non-existing configurations, this large number of potential configurations suggests to analyze if and which configurations are more common than others. Such configurations should be prioritized when designing a configurative publication schema. Consequently, our next step is as follows: We conduct a literature review and subsequent empirical analysis aiming at receiving insights which configurations (typically) occur in DSR publications.

Identification of Configurations

We followed the literature review methodology by Webster and Watson (2002) by performing the following steps: (1) identification of relevant disciplines, (2) selection of adequate journals, (3) search process, (4) content structuring, and (5) content analysis. Steps 1 to 4 are summarized in the subsection ‘Preparation Phase’ below.

Preparation Phase

Since we focus on scientific publications of DSR knowledge in the IS field, we limited the relevant disciplines to IS only and excluded practitioner-oriented IS contributions. Further, we selected only DSR-receptive IS journals as identified by VanderMeer and Tremblay (2013). We chose the two scientific databases Web of Science and Scopus which cover all articles published within our 13 selected journals and restricted the search to contributions which include the keywords ‘Design Science’, ‘Design Research’ or ‘DSR’ at least within title, abstract, or keyword section, resulting in sum in 124 articles. We removed all obvious duplicates, editorials, interviews, and others notes (resulting in 89 articles).

In order to structure the content we read each article and classified it according to the configuration parameters (cf. Table 3). As the set of 89 articles still included a mix of DSR articles which actually design a DSR artifact (‘design research’) and articles about the DSR paradigm itself (‘design science’; cf. differentiation by (Winter 2008)), the classification step was also used to identify and eliminate the latter ones. The
The number of generic and domain-specific contributions is well-balanced across the different knowledge contribution and artifact types, with similar patterns for all journals.

With 27 records (51.9%) models are the most popular DSR artifact type, followed by instantiations (13 records; 25.0%), methods (11 records; 21.2%), and constructs (1 record; 1.9%). Design theories have not been published within our dataset.

Also, the evaluation methods exhibit frequent representatives with ‘controlled experiment’ (14 records; 26.9%) and ‘field experiment’ (11 records; 21.2%). All other evaluation methods – except for ‘action research’, ‘formal proof’, and ‘survey’ (0 record each) – are moderately used, regardless of the artifact type. However, it is notable that seven articles applied multiple evaluation methods (13.5%) and that the largest variety of evaluation methods was applied to the artifact type ‘model’ (7 methods out of the 11 defined).

Concluding, out of the four configuration parameters only ‘scope’ seems to be equally distributed. All other parameters seem to exhibit unequal distributions of their values. We were able to identify 25 unique
configurations (out of 440 possible ones) within the 52 analyzed articles with one evaluation technique and 7 configurations with multiple or no evaluation. Since multi-evaluation can be considered in the publication schema context as a composition of the single evaluation techniques, we do not further consider these configurations. The most frequent configuration based on our analysis is: Generic | Model | Improvement | Field Experiment (4 records; 8.7%).

Table 5. DSR article frequency by DSR publication schema configurations (n = 52)

<table>
<thead>
<tr>
<th>Key:</th>
<th>Action Research</th>
<th>Case Study</th>
<th>Controlled Exp.</th>
<th>Expert Interview</th>
<th>Field Experiment</th>
<th>Focus Group</th>
<th>Formal Proof</th>
<th>Informed Arg.</th>
<th>Scenario</th>
<th>Simulation</th>
<th>Survey</th>
<th>Multi</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 record</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>2 records</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>3 records</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>4 records</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>no record in row/column</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

Our analysis does not claim to deliver a complete and final list of the most common configurations; further analysis is needed for this purpose. However, it clearly exhibits evidence that some configurations are more common than others and suggests that a considerable amount of configurations does not appear in DSR publications at all (and therefore has not to be covered by a publication schema).

**Framework and Example for a Configurative DSR Publication Schema**

The detailed construction of the configurative reference model for DSR publications is subject to future work. However, we illustrate the final artifact by describing the remaining design steps and by an example. The next step is the construction of the overall (“total”) reference model including all potential elements. Gregor and Hevner’s (2013) publication schema will serve as the starting point and each section will be stepwise refined. Such a comprehensive reference model does not support authors in certain publication situations and has to be adapted according to concrete configurations. Before the concrete adaptat-
tion operations can be defined, insight is needed if the configuration parameters have mutually independent impact on the reference model, e.g. if the adaptation operations for a certain artifact type and for a certain evaluation method can be conducted independently and in arbitrary order. In such a case the operations can also be specified for each value of each configuration parameter independently.

To answer this question additional empirical analysis should be conducted. A considerably larger set of DSR publications for finding the underlying configurations and potential dependencies between parameters could be analyzed by means of text mining and pre-defined word lists. The results would allow insights which elements of the total reference model a paper contains and in which order. As a side effect the analysis results can be used to verify the conclusions we made in Table 2. Besides these findings about common practices it will become obvious if and between which configuration parameters dependencies exist and which configurations are most common. Both results guide the subsequent design steps. Simply said, the higher and the more frequent the dependencies are the more you have to follow a “bottom up” approach by specifying the adaptation operations for (in an extreme case each single) potential configuration. In these cases the knowledge about frequencies of configurations helps to concentrate on the more common ones. If the dependency degree is zero only specifications of adaptation operations for each configuration parameter value are needed. The likely case of a mid-range dependency degree will probably result in a combined approach.

The following example (Table 6) illustrates two sample configurations: the first (left) one with the parameter values “Generic | Model | Improvement | Field Experiment” representing a very common configuration (cf. Table 5) and a second configuration (right) which exhibits different parameter values (Domain-specific | Method | Exaptation | Case Study). For better readability we have chosen a representation similar to tables of contents.

<table>
<thead>
<tr>
<th>Sample Configuration 1:</th>
<th>Sample Configuration 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generic</strong></td>
<td><strong>Domain-specific</strong></td>
</tr>
<tr>
<td><strong>Model</strong></td>
<td><strong>Method</strong></td>
</tr>
<tr>
<td><strong>Improvement</strong></td>
<td><strong>Exaptation</strong></td>
</tr>
<tr>
<td><strong>Field Experiment</strong></td>
<td><strong>Case Study</strong></td>
</tr>
<tr>
<td><strong>1.</strong></td>
<td><strong>1.</strong></td>
</tr>
<tr>
<td>* Situation &amp; Problem Description</td>
<td>* Situation &amp; Problem Description</td>
</tr>
<tr>
<td>* Motivation/Relevance</td>
<td>* Motivation/Relevance</td>
</tr>
<tr>
<td>* Research Goal &amp; Questions</td>
<td>* Research Goal &amp; Questions</td>
</tr>
<tr>
<td>* Paper Structure</td>
<td>* Paper Structure</td>
</tr>
<tr>
<td><strong>2.</strong></td>
<td><strong>2.</strong></td>
</tr>
<tr>
<td>* Overview about State of the Art</td>
<td>2.1. Domain-Specific Overview about State of the Art</td>
</tr>
<tr>
<td>* References Used</td>
<td>* References Used</td>
</tr>
<tr>
<td>* Findings &amp; Implications</td>
<td>2.2. Overview about State of the Art of Generic Discipline</td>
</tr>
<tr>
<td>* References Used</td>
<td>* References Used</td>
</tr>
<tr>
<td><strong>3.</strong></td>
<td><strong>3.</strong></td>
</tr>
<tr>
<td>3.1. Justification of DSR usage</td>
<td>3.1. Justification of DSR usage</td>
</tr>
<tr>
<td>3.3. Field Experiment Planned</td>
<td>3.3. Case Study Planned</td>
</tr>
<tr>
<td><strong>4.</strong></td>
<td><strong>4.</strong></td>
</tr>
<tr>
<td>* Notation (Constructs) used for Description</td>
<td>4.1. Results/Deliverables</td>
</tr>
<tr>
<td>* Description of Model</td>
<td>4.2. Activities</td>
</tr>
<tr>
<td><strong>5.</strong></td>
<td><strong>5.</strong></td>
</tr>
<tr>
<td>Evaluation (Field Experiment) (cf. Mettler et al. 2014; Siau and Rossi 2007)</td>
<td>Evaluation (Case Study) (cf. Yin, 2009)</td>
</tr>
<tr>
<td>5.1. Description of the Setting</td>
<td>5.1. Issue or Problem Studied</td>
</tr>
<tr>
<td>5.2. Independent &amp; Dependent Variables</td>
<td>5.2. Used Methods for Data Collection</td>
</tr>
<tr>
<td>5.3. Observations</td>
<td>5.3. Findings from the Data Collected and Analyzed</td>
</tr>
<tr>
<td>5.4. Conclusion &amp; Implications</td>
<td>5.4. Conclusion &amp; Implications</td>
</tr>
<tr>
<td><strong>6.</strong></td>
<td><strong>6.</strong></td>
</tr>
<tr>
<td>Discussion (cf. Gregor and Hevner 2013)</td>
<td>Discussion (cf. Gregor and Hevner 2013)</td>
</tr>
<tr>
<td>* Why is the Designed Model an Improvement?</td>
<td>* Domain-specific Method Elements</td>
</tr>
<tr>
<td>* Limitations of Work</td>
<td>* Why is the Designed Method an Improvement?</td>
</tr>
<tr>
<td><strong>7.</strong></td>
<td><strong>7.</strong></td>
</tr>
<tr>
<td>Conclusion (cf. Gregor and Hevner 2013)</td>
<td>Conclusion (cf. Gregor and Hevner 2013)</td>
</tr>
<tr>
<td>* Summarized Findings</td>
<td>* Summarized Findings</td>
</tr>
<tr>
<td>* Further Work</td>
<td>* Further Work</td>
</tr>
</tbody>
</table>
The publication schema in (Gregor and Hevner 2013) has served as the starting point and each section has been stepwise refined. Comparing both publication schemas exhibits differences in the inclusion of subsections, in the headings, the order, and the information objects. Furthermore, the example illustrates how existing specific literature for certain parameter values (e.g. for the artifact type ‘method’ or for the evaluation method ‘case study’) can help to define the adaptation operations. The subsections and the information objects (marked by ‘*’) can be stepwise specified and refined by several options, such as a continuous and joint effort by the research community in a Wiki-like approach, by consolidating best practices in previous DSR publications, and/or by integrating dedicated methodologies from IS research (e.g. for certain evaluation techniques).

Conclusion, Limitations, and Further Work

Motivated by the need for situational guidance for DSR publishing the paper at hand presents an approach how to construct such a configurative publication schema. The identification of configuration parameters and of (common) configurations helps to frame the final artifact. Besides the aforementioned next steps future major tasks will be the selection of an appropriate notation for the reference model and for the adaptation operations. To find the best way how to handle potential dependencies of configuration parameters efficiently, will also be challenging. However, in accordance with Gregor and Hevner (2013), Dwivedi et al. (2014), Goes (2014), and van Aken (2014) we are confident that the resulting configurative DSR publication schema constitutes true value for the DSR community. Nevertheless, since DSR is all about innovation and creativity, such a publication schema should always be considered and used as guidance and not as prescription.

References


Towards a Configurative Publication Schema for Design Science Research


