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SCRUM4CONSULTING-AGILE Project Management
by Sylvia Kerscher and Holger Günzel
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SCRUM4CONSULTING – Agile Project Management for Consulting Projects[1, 2]

Sylvia Kerscher
LIV-T GmbH, Munich, Germany

Holger Günzel
Munich University of Applied Sciences, Munich, Germany

Abstract

The megatrend of digitalization is not only having an impact on IT in companies, more than ever it focuses on the development of new business models and the adaptation of business processes (Berman, 2012). In this context, client requirements for the project management approach in management consulting projects are also changing significantly (McKinsey, 2017) (Sywottek, 2018). It is no longer the autonomous development of a concept by the consulting firm, but cooperative and transparent processing, the discussion of early and tested partial results and increased short-term change requests during implementation that make it necessary to adapt the project management approach. Classic project management approaches with a waterfall like approach such as PMI (Project Management Institute, 2017) or Prince 2 (Axelos, 2017) are only suitable to a limited extent; often they are also too costly for a small project team. Management approaches such as Lean Startup (Ries, 2017) or Design Thinking (Lewrick & Link, 2018) show the current trend towards iterative and flexible methods (Denning, 2018).

The goal of the research is the adaptation of Scrum (Sutherland, 2015) for management consulting projects in process, innovation or strategy consulting. In addition to the process model and the roles, the areas of requirements definition and test are primarily to be adapted. After a literature analysis and expert interviews, the procedure in industrial consulting projects was evaluated at the Munich University of Applied Sciences.

With the present conception of an agile project management model for management consultancies, consulting projects outside of IT projects can be carried out agile. The cooperation between client and consultants is in the foreground; the consideration of

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changes is possible and positively affects the client orientation. Furthermore, projects with subsequent IT implementation are simplified. Still the requirement definition by means of user stories is unusual and the client must accept and support an increased project speed as well as the mindset of the agile proceeding.

Key words: *Digitalization, consulting, agile project management, flexibility*

JEL code: O31

1. Introduction

The digital transformation has to be understood as an answer of enterprises, in order to fulfil the ever-larger expectations of the clients in addition, the project complexity increases (Techconsult, 2017). The associated demand for faster responsiveness is therefore cross-industry (Lindner, 2017).

External experts are called in for support more than ever before: 63%, of those involved in a study by Techconsult in 2017, stated that they increasingly expect support from management consultants in such projects (Techconsult, 2017).

Client expectations and market-driven requirements also demand a more flexible and adaptable project management approach from management consultants. Agile process models are thus becoming more and more important for management consultancies (Risch, 2018); to date, there is no scientifically validated, agile project management approach specifically for consultancies.

The present report addresses the aforementioned problem in the research questions.

- What are the project management requirements for consulting projects from the client's point of view?
- To what extent do existing project management models cover these requirements from a literature side?
- How can the client's requirements be taken into account in agile project management?

The paper on hand focuses on a flexible project management approach explicitly for consulting projects. In advance, the requirements (chapter 2) for project management from the client's point of view have to be ascertained. Based on this, existing project management models have to be analysed for the fulfilment of the required requirements (chapter 3) in order to develop a suitable project management procedure (chapter 4). Chapter 5 deals with the research method and critical reflection.

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2. Client requirements for projects

The demands of clients regarding management consultancies have changed significantly due to the digital transformation. Not only more innovative results, but also an intensification of the cooperation with the customer, interactive processes and flexibilization of the advisory assignment are expected and wanted.

1) More innovative and goal-oriented results

- Ability to innovate: In order to remain successful in a volatile market, clients increasingly demand innovative solutions. According to 74% of respondents (Techconsult, 2017), project dynamics are increasing, whereby this depends on the type of project (Komus & Kuberg, 2017); Wautelet et al., 2017).

- More precise goal definition of the project result: The higher the agreement between actual project outcome and outcome required by the client or the traceability for deviations, the higher are clients' satisfaction and the chances of re-contracting.

- Ongoing work on results: For almost one third of all projects, implementation difficulties are recognised too late, as often too few or only at large intervals results are completed and presented. Early interim results give clients assurance that the project is moving in the right direction (Techconsult, 2017).

2) Interactive processes in the implementation

- Planning reliability: The client demands planning reliability with regard to time and budget in the implementation (Komus & Kuberg, 2017). Nevertheless, after a few weeks 42% of generated project plans are already considered obsolete (Techconsult, 2017). 90% of surveyed companies say there are delays or increased costs through implementation of the projects.

- Relevance and accuracy of progress documentation: The consulting team is requested by the client to provide continuous, qualified information on the content and status of the project.

- Reduction of risks: A suitable handling of potential risks is a basic requirement for projects (Komus & Kuberg, 2017).

- Time flexibility: In many companies, employees are not only deployed for a single project, but - especially in large corporations - are often only scheduled for a certain percentage of their working time for a project. A recent study shows that 65% of companies will continue to divide their employees between parallel projects in the future (Techconsult, 2017).

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- Spatial flexibility: In the context of Working Environment 4.0, the client's employee is often accustomed to spatial flexibility - such as "new work" or home office - which he would also like to retain in a consulting project (Keese, 2014).

3) Intensification of cooperation

- Increased communication: Regular communication regarding the process and product provides the client with an opportunity to actively influence the project, help shape the outcome of the project and reduce the risk that the product is not marketable.

- Information flow towards management: Management support is an essential success factor in projects (Standish Group, 2015).

- Employee integration: The involvement of employees in the project is only partially desired by the client, as the lack of resources often conflicts with an organizational culture that has not been designed for this purpose.

- Solution-oriented conflict management: The increasing complexity of projects has resulted in more frequent use of experts from different consulting firms (Techconsult, 2017). Nevertheless, the client expects all consultants to work together across companies, conflict-free, cooperatively and solution-oriented.

- Transparent processes between client and consulting firm: 34% of the projects report problems during implementation, which are often due to a lack of transparency in the process and progress or a communication deficit (Techconsult, 2017).

4) Flexibilization of the consulting assignment

- Consideration of change requests: 51% of the projects are subject to frequent change requests, which entail adjustments to the project plans (Techconsult, 2017). The client's satisfaction increases if his change requests are taken into account quickly and flexibly (Ewenstein et al., 2015).

- Flexible combination of procedures: Flexibility in the method of proceeding and an equally flexible combinability with other methods is required in order to select the most suitable solution for each situation (Techconsult, 2017).

3. Related work

The three project management orientations "classic", "lean" and "agile" are evaluated with the requirements for consulting projects. The selection of the classic methods is based on Prince2 (Axelos, 2017), PMI-PMBOK (Project Management Institute, 2017) and ICB (Rauer 2015). Kanban (Epping, 2011), Lean Six Sigma (Devane, 2003) and the Toyota Production System (Ohno, 1988) are chosen as representative approaches for

Lean. The agile approaches are represented by Extreme Programming (Baumeister et al., 2017), Scrum (Sutherland, 2015) and Agile in the waterfall world (Lindner, 2017).

No model lives up to clients' expectations in all areas. In the area of results (1), agile methods have an advantage due to the continuous partial outputs. Secondly, traditional methods can be used in the field of processes (2) to suitably implement the required flexibility in terms of time and location and planning security. Clear strengths with regard to cooperation (3) are lean and agile procedures. Flexibilization (4) with regard to requirements is easiest to implement with agile methods.

Table 1.
Requirements / Methods Evaluation

++	+	o	-	- -
The method meets the requirement completely	The method meets the requirement to a satisfactory extent	The method is neutral to this requirement	The method cannot partially meet this requirement	The method does not meet the require-ment

Type of requirements	Requirements	Type of project management		
		Classic	Lean	Agile
(1) Results		**-**	**o**	**++**
	Ability to innovate	-	-/ o	+/ ++
	Accuracy of the desired project result	o	+	+
	Sequential, continuous results	--	-/ o	++
(2) Processes		**+**	**o**	**o**
	Planning reliability	+	++	o
	Relevance and accuracy of progress documentation	o	o	+
	Risk reduction	o	+	+
	Time flexibility	+	o	-/ --
	Spatial flexibility	++	--/ -	--
(3) Cooperation		**-**	**+**	**+/ ++**
	Possibility for feedback communication	-	+/ ++	+/ ++
	Information to management	-	o	+/ ++
	Integration of employees	-	o	+/ ++
	Transparent processes	+	+/ ++	+/ ++
	Solution-oriented conflict management	o	-/ o	o
(4) Flexibility		**o**	**+/ o**	**++**
	Consideration of change requests	--	o	++
	Flexible combinability with process models	++	+	+

Source: Authors' construction

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4. Scrum4Consulting Concept

The adaptation of agile project management towards requested requirements of consultancies must take place in the areas mind-set, roles and processes.

4.1 Agile Values and Principles

Through the agile values (Agile Manifesto, 2001) and the focus on interactions, working products, cooperation with the client, acceptance of change, commitment, focus, courage, respect and openness become essential components of the approach. These are required from both, the consultant and the client. The second must actively engage in the cooperation, otherwise the project cannot be carried out successfully. Therefore, the principles (derived from the agile manifesto) such as continuous delivery of increments, positive response to change, a self-organized team, daily cooperation, personal dialogue, professional as well as technical excellence and reduction to the essentials are essential fundamentals of the new concept.

4.2 Roles

The roles for Scrum4Consulting are based on the roles of traditional Scrum. However, these roles are extended by some necessary ones and tasks are adapted in order to reflect the temporary cooperation between companies and consultancies.

Table 2.

The roles for Scrum4Consulting

Roles	Tasks
Scrum Master	The ScrumMaster (SM) is responsible for ensuring that the Scrum4Consulting (S4C) process is followed. For this he protects his team and eliminates disturbances and obstacles. This position is often covered by an employee of the consulting firm. Particular attention is paid to the work on the agile mindset of the participants, since his focus is on increasing the productivity of the team.
Product Owner	The Product Owner (PO) is responsible for the value of the project and prioritizes user as well as client stories by value. The PO delivers the requirements that the consulting team needs for the project. He is either a trained employee of the client, who can also be supported by consultants, or an employee of the consulting company.
Scrum 4 Consulting Team	The Scrum4Consulting Team consists of external consultants and client's employees. Together they are responsible for a constant and qualitative delivery of results (self-organized). Together with the product owner, the strategic added value and the direction towards product development are permanently worked on.

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Client	The client has requested the consulting service and is number one contact person for contractual and organizational matters. He mainly works together with the PO. He receives and accepts the product increments in each review meeting and coordinates them continuously with the PO.
Mana-gement	The management is defined in this concept as the manager one level above of the client in the advised company. He is responsible to ensuring that all essential elements for product development are available to the team. In cooperation with the SM he revises structures and conditions in the client's company.
User	The user is the customer of the product or service. The user is always actively asked for feedback and can be invited to review meetings. Depending on the type of project, the user can be an external customer or an internal employee.

Source: Authors' construction

4.3 Phases and Procedure

The Scrum4Consulting process is divided into an initiation phase, an implementation phase and a final phase (figure 1), with adjustments being made in the first two phases. In comparison to a consulting procedure model with a conventional project management approach, client's requirements are fixed in the beginning and completely worked towards the entire project, the initiation phase is also used to understand the project scope and client's requirements, but not to analyze and document them comprehensively. The focus is on breaking down the requirements into redundancy-free "stories" for the iterative implementation phase, which, in addition to fast partial results, provides intensive cooperation and optimisation of the process.

Initiation Phase

The initiation phase (according to Gloger (2016) also called strategic phase) is used in Scrum4Consulting to carry out the elements to be planned, such as the detailing of the idea, generation of a common vision, creation of a backlog with user and client stories, its prioritization and initial estimation of the Scrum4Consulting Team. This phase is characterised by the fact that work is not done directly for the result, but the requirements of the client are fixed (Gloger, 2016) (Heikkilä et al., 2015).
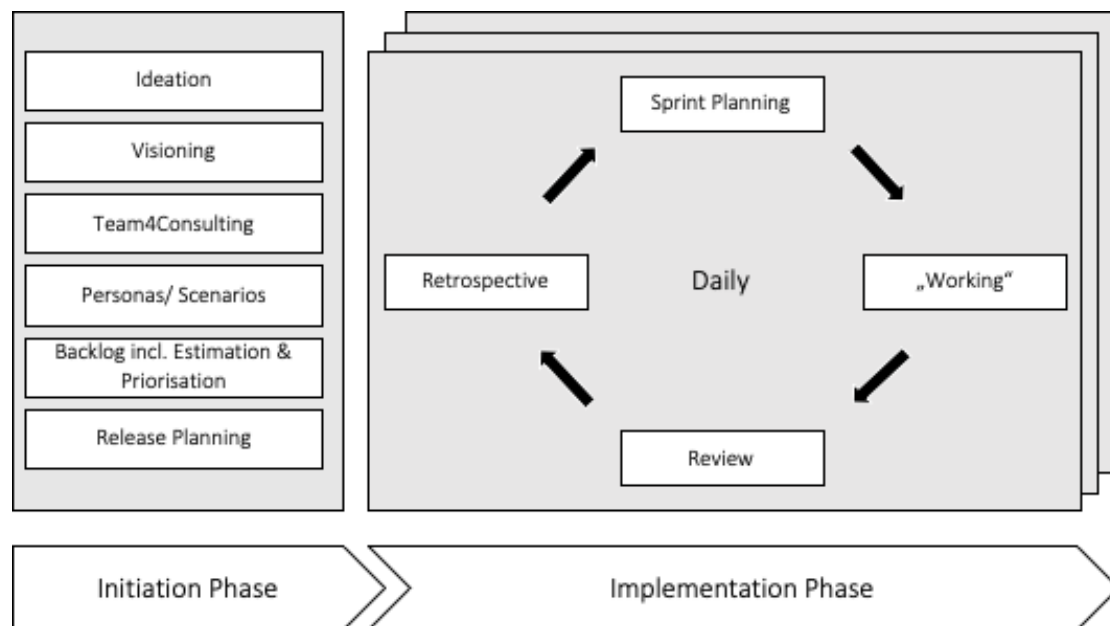
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Fig. 1: **Phases and Work Products**

Depending on the type of project, a new consulting project is triggered either by a client's idea or need or their management. For example, business process optimization serves to improve quality or process execution speed. The vision creates a motivating target picture for the consulting team. The challenge in creating a vision is to create a strong product vision that simultaneously triggers emotions (Gloger, 2016); (Gottesdiener & Gorman, 2011). The creation of this vision often already takes place within the assignment. It is the responsibility of the Product Owner to create the vision. In "Team4Consulting", in addition to the selection of the client's employees for the consulting team and team building, work is done with the consulting company on the activation of the agile mindset - which is currently not available in all companies. The mindset is an essential success factor or, in a negative case, a show stopper for agile projects (Gloger, 2016). Furthermore, the common "rules of the game" in the team such as working hours, exchange of work results, sprint length, definition of done, etc. are defined. The consulting team is supported during the whole project by the Scrum Master. Personas serve as a description of a potential target group that uses the result. In addition to the description of the person, goals of the person, life circumstances and context of the product use are recorded. The scenarios show the use and influence of the product on the target group. The consulting backlog consists of the scrum backlog with the user stories as functional requirements for the result and additional requirements (also called side products) of the client. The consulting situation makes it necessary to introduce client stories.

- User Stories: User stories can be used analogue in consulting (Wirdemann & Mainusch, 2017). The user stories are based on the personas/ scenarios (Gloger, 2016; Kandil et al., 2017) (Wautelet et al., 2017). User stories serve as a basis for the creation, improvement or use of a process/product, as they take needs of users into account and meet them. All user stories are predominantly prioritized

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according to business value by the product owner in the consulting backlog (Heikkilä u.a., 2015)(Kandil et al., 2017). An example should illustrate this: A service provider in the healthcare sector commissions a consulting firm to remain competitive in the course of the digital transformation. Among other things, the onboarding experience is to be revised for this purpose. One user story from the customer's perspective is "As a customer, I want a personalized onboarding experience in order to be perceived as a person". Since this user story is too big to be implemented in an iteration, the user story is divided and detailed, e.g. in "As a private customer, I would like a personalized onboard experience in order to receive more personalized advice from the beginning".

- Client Stories: Client stories arise from the client's requirements for side products such as a market analysis, a business case, SWOT analysis or management presentation. The structure of user stories is supplemented by a time component: "Who needs what, what for and until when" in order to obtain a further prioritisation criterion. "Who" is the specific client or manager who has requested the respective side product. The "what" represents the requirement (e.g. management presentation); "why" also reflects here the justification basis (e.g. decision basis). The product owner is responsible for prioritizing the client stories according to dependencies, business risk and cost of delay.

The consulting team initially estimates the stories according to the scope of features in the Estimation Meeting. In contrast to prioritization, the estimation is carried out by the team, supported by the functional explanation of the product owner under the direction of the Scrum Master. The release plan is the control element of the project, which is managed by the product owner. From the release plan it can be determined which prioritized stories will be completed at which time. This information enables the client together with the Product Owner to move the stories between the different sprints (Wirdemann & Mainusch, 2017).

Implementation

In the Scrum4Consulting concept, the implementation phase describes all activities to be performed by the implementation team. These activities are carried out in time-limited ("timeboxed") iterations. The sprint length for consulting projects is set to a short period of time such as one week. The consulting approach (e.g. an as-is state analysis, creation of the target concept and implementation, rollout) is run through during the sprint for the individual story (figure 2). The final rollout only takes place when the solution has proven to be suitable through the test of the implementation phase.
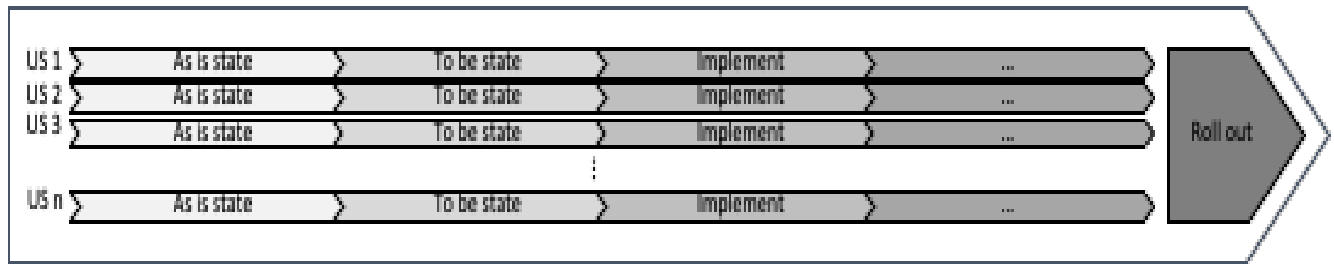
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Fig. 2: **Implementation method**

The implementation phase includes the sprint planning meeting, the review meeting, the retrospective and the daily (Wirdemann & Mainusch, 2017).

Analogue to Scrum, sprint planning is separated into two different meetings in order to carry out planning (sprint planning 2) only after understanding and creating a team commitment in sprint planning 1 (Gloger, 2016) (Maximini, 2018). For each selected backlog item, the requirements must be clarified, acceptance criteria (behaviour) and constraints (framework conditions) fixed and a test generated (Gloger, 2016) (Maximini, 2018).
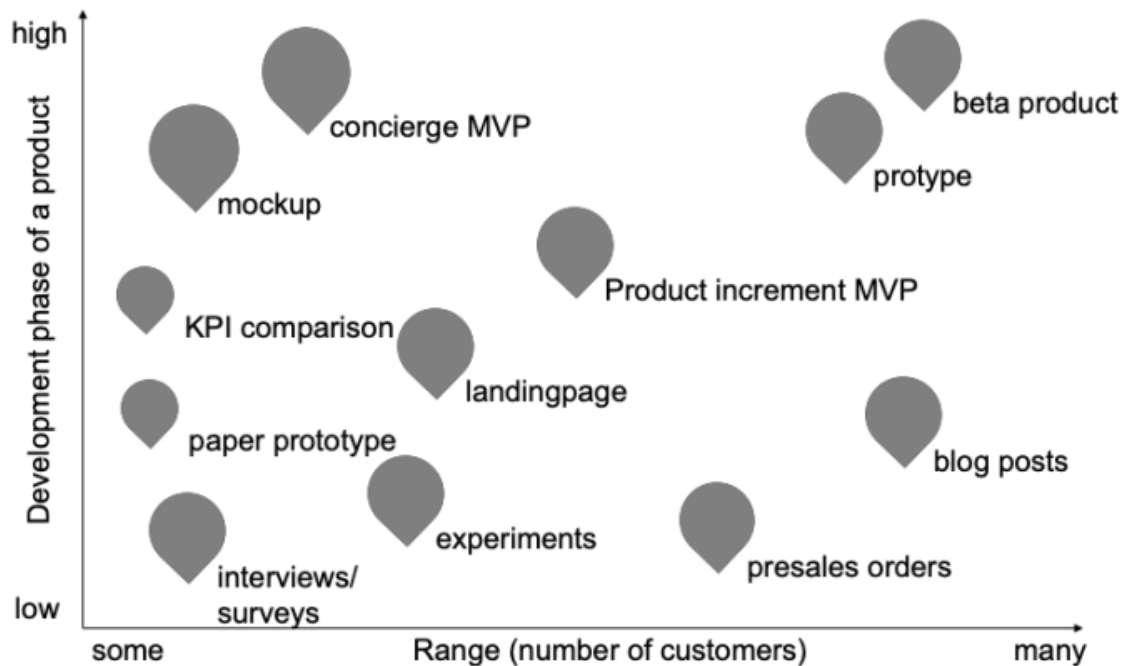

Fig. 3: **Types of Test** (Source: similar to Chuang (2016))

A special feature of consulting is the testing of consulting results that differs significantly from software. Scrum4Consulting follows the principle of Behaviour-Driven-Development (BDD), whereby a certain reaction has to be generated during the test. As a first step, the team considers which type of test can be used to test a client/user story accordingly.

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A certain reaction by the user should occur when using the product. By working out the test and the expected reaction, the later identification of the requirements and acceptance criteria for the consulting team is facilitated. Different types of tests (figure 3) are specified, which can be classified according to the state of development of the product and its range (van Geldrop, 2016). It is based on the test types of the Lean Startup procedure (Ries, 2017). The size of the icons is proportional to the effort involved (Chuang, 2016). As a new type of testing, "10 minutes feedback", derived from classic interviews, is introduced. Each user of the consulting team should evaluate the change every day in a ten-minute feedback discussion.

Tasks in Sprint Planning 2 are initially derived directly from the consulting process models, which are then further detailed. All potential consulting work products such as requirements, weak point analysis or process models in the consulting phases (as-is state analysis, target concept, etc.) lead to tasks that are extended by acceptance criteria, constraints and tests.

Daily Scrum meeting as a regular exchange date (transparency) (Shaughnessy, 2018), Taskboard (Gloger, 2016) (Wirdemann & Mainusch, 2017) or the Burndown Chart (Gloger, 2016) as a visualization of progress, or the Impediment Backlog for collecting obstacles are used.

On the last day of the sprint, the Sprint Review Meeting takes place, in which the created sub-products are presented and reviewed (McKinsey, 2017) (Gloger, 2016).
The retrospective is carried out at the end of each sprint, which results in specific suggestions for improvement. The entire Scrum4Consulting Team and the ScrumMaster take part in it. It is facilitated by the ScrumMaster and therefore plays a leading role (Gloger, 2016) (Maximini, 2013).

5 Research Method and critical discussion

The described approach was scientifically evaluated through interviews and a practical implementation.

5.1 Research Method

The paper is founded on qualitative research based on a comprehensive literature research on the topics of agile project management (model), project management in consulting and project management for business process optimization. Five guided expert interviews deepen, expand and validate the requirements concept (Berger-Grabner, 2016). Scrum4Consulting is based on a multiple-case study (Yin, 2012). It took place in the "Co-Innovation Lab" of the Munich University of Applied Sciences (Günzel & Brehm, 2018), which was continuously improved during project implementation through surveys of participants (Döring & Bortz, 2016) (Berger-Grabner, 2016). In the "Co-Innovation Lab" companies work together with students in project-oriented courses on future innovations. This lab serves as a common development environment for innovation projects. Students change from discussing case studies to interact with business reality

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through projects and experience as well as develop new approaches to solving complex business problems. Subsequently, the concept was validated with the help of five experts in qualitative interviews.

5.2 Evaluation and limitation of the concept

As a central aspect of the interviews it emerged that there is a great urgency for management consultancies to proceed agile in the future. At the current state of research, there is no general cross-company model for this. Therefore, the relevance of this iteratively designed model is rated as high.

The previously established requirements can largely be fulfilled by the developed model. The spatial and temporal flexibility, which is shifted to the team level for the solution, remains difficult.

It has also emerged that, in addition to functions and components of the main product, user stories also create requirements for other additional products, the side products, which are addressed by client stories. It is important to find the right granularity and description.

Because a finished partial product must be provided in a short period of time, the topic test becomes essential in the non-software field. It is not trivial to set up and carry out a suitable test.

The concept on hand requires working with an agile mindset (consultant and client), which is to be evaluated as an essential success factor. If this is not given or if the project is not applied holistically, there is an increased project risk. Especially the conversion to an agile mindset needs sufficient time.

Despite the positive evaluation of the relevance and the preceding research results, it should not be neglected that the concept was only tested in a student context. Aspects such as the conclusion of contracts or international teams were not taken into account. However, in the expert interviews it was deliberately placed in the focus of the survey and validated in the course of this.

6 Conclusions

The aim of this paper was to create a first scientific approach that would verify the compatibility of the consulting industry, outside of software development, with an agile project management approach. This goal was based on the assessment of project management needs from the client's point of view. In order to check the extent to which existing models cover these specific requirements, a gap analysis is generated on the basis of a literature search. From this, it was possible to identify the approach that best fulfils the desired aspects. The aim was to further develop this approach in such a way that it takes into account the special features of the consulting industry. The concept

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Scrum4Consulting, which is developed on the basis of a literature analysis, validated by five expert interviews and repeatedly tested and further developed with project partners from industry in the Co-Innovation Lab of the Munich University of Applied Sciences, forms the nucleus of this work.

Based on the research results obtained, further research topics will emerge. Since the consulting industry is heterogeneous and extensive, it makes sense to extend the study to other project types. It is also recommended to investigate the scaling of Scrum4Consulting. If necessary, the interaction of different consultancies can also be tested. Furthermore, specifics like contract types like the "agile fixed price" and organizational aspects like the four-day week can be taken up.

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About the Authors

Sylvia Kerscher

Munich, Germany

Sylvia Kerscher's interests lie predominantly in (Strategic) Business Development. To perform this successfully she uses agile project management approaches. Currently she focuses on a data-driven product, reinventing the Energy sector within a Munich (Germany) based IoT start up. Before this she has worked in several industries and countries (Australia, Germany and UK) mostly within Business Consulting. Most of her projects focused on digital transformation, business innovation or strategic foresight. Therefore, she was able to use her theoretical knowledge gained through her university's degree from the University of Applied Sciences in Munich with the major "Business Innovation and Management Consulting" (MSc). She conducted her Bachelor's degree in Business Administration, focusing on project management (BA) at the University of Applied Sciences in Regensburg (Germany) and Via University College Horsens (Denmark). You can contact Sylvia at e-mail: s.kerscher@liv-t.com.

Prof. Dr.-Ing. Holger Günzel

Munich, Germany

Prof. Dr.-Ing. Holger Günzel is professor for process and information management at the Munich University of Applied Sciences (Germany) since September 2007. Current topics are agile project management, process management and challenges through digitalization. He currently coordinates the master's program "Digital Technology Entrepreneurship" at the Department of Business Administration. He initiated the Learning Lab "Digital Technologies" (www.LL4DT.org) and the Co-Innovation Lab (www.co-inno-lab.org). Between 2013 and 2016 he was able to shape and advance the

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Department of Business Administration as Dean. From 2001 to 2007 he was employed at IBM Global Business Services as an executive and consultant. He successfully completed his studies and PhD in Data Analytics at the Friedrich-Alexander-University Erlangen-Nuremberg.

Prof. Dr.-Ing. Holger Günzel can be contacted at e-mail: holger.guenzel@hm.edu