A Scientific Baseline for Agile Leadership - A Workshop Study

Alexander Krieg¹, Nils Prenner², Pascal Guckenbiehl³, Sven Theobald⁴, Kurt Schneider⁵

Abstract: Leadership faces its biggest transformation in decades. The age of data and information as well as the associated digitalization are the driving forces behind fast and radically changing markets. Sustainability, diversity and self-organization are subjects modern companies and their leadership culture must address. There is plenty of literature on agile leadership and many practitioners and coaches work on building an agile leadership culture. However, we realized that there is a lack of scientific research and understanding regarding what characterizes agile leadership. This paper aims to present a scientific baseline for agile leadership to start closing the gap between practical knowledge and scientific investigation. We conducted three workshops with agile experts to elicit their understanding and experiences with regard to agile leadership and aggregated them into an overview of categories and characteristics. Practitioners can use these insights to identify potential for improvement in their leadership culture, while researchers can build on the results in their future research.

Keywords: Agile Leadership · Agile Organization · Culture · Organizational Design · Organizational Agility · Expert Workshops · Self-Organization · Continuous Improvement · Customer · Goals · VUCA · Top Management.

1 Introduction

Whole branches face disruptive market changes because of the digital transformation, new customers and players, digital business models and changing requirements. In this VUCA (Volatile, Uncertain, Complex and Ambiguous) environment, companies need to react quickly to constant changes and stay flexible while developing a complex product in a likewise complex environment. Leaders at every level need to buy into agility as an organizational value, which has a large effect on the challenges modern leader must face. Traditional organizations emphasize stability by centralized decisions, a hierarchical organizational design and a "command and control" mentality. However, these structures have proven to be less effective when acting within complex and volatile environments. Since the 1990s, agile frameworks, methods and practices as well as the agile mindset and corresponding leadership approaches were introduced and constantly developed to cope with the VUCA world. It became necessary to replace slow, hierarchical organizational structures with a more fluid and adaptable designs [MG06].

All this highlights the importance of a new understanding of leadership. Until today though, there is no appropriate scientific base that addresses the benefits of agile leader-

¹ nextOrange GmbH, Geschäftsführung, Stadtdeich 2-4, 20097 Hamburg, alexander.krieg@nextorange.de

² Leibniz University, SE Group, Welfengarten 1, 30167 Hannover, nils.prenner@inf.uni-hannover.de

³ TOPdesk Deutschland GmbH, Hertelsbrunnenring 24, 67657 Kaiserslautern, p.guckenbiehl@topdesk.com

⁴ Fraunhofer IESE, Fraunhofer-Platz 1, 67663 Kaiserslautern sven.theobald@iese.fraunhofer.de

⁵ Leibniz University, SE Group, Welfengarten 1, 30167 Hannover, kurt.schneider@inf.uni-hannover.de

ship on an organizational level. Even though there are many technical books and consulting offers, the agile way of leading a non-technical department or even a whole organization is still far from common knowledge. Thus, we aim at getting a better understanding of the characteristics defining agile leadership.

In 2019 we decided to focus our research distinctly on agile leadership and management and published a corresponding systematic literature review [TPKS20]. The goal of this was to create a better understanding of what leadership and management can look like in the context of an agile organization. Further, it was meant to provide an overview of existing work on this topic and present preliminary results. The analysis of the identified papers focused on the definition and motivation of agile leadership. Further, we wanted to create a baseline for modern leadership and management from the existing scientific literature. The results highlighted, that agile approaches are being used increasingly beyond software engineering, where they originated.

Based on this previous work we wanted to go further and conducted three workshops with agile experts to elicit their understanding and experiences regarding agile leadership throughout the whole organization. One result of these workshops was the identification of seven categories on which agile leadership is based. Another finding is that the category of "Self-Organized Teams" is completely new compared to traditional leadership. This aspect didn't exist until the beginning of the agile movement in the 1990s. In the following, we will describe the insights and results from these workshops and propose a characterization of agile leadership.

The remainder of the paper is structured as followed: Section 2 presents the background and related work, followed by an explanation of the research method in Section 3. The results are presented in Section 4 and discussed in Section 5. Finally, we conclude our paper in Section 6.

2 Background and Related Work

According to previous studies, such as the surveys by Digital.ai (formerly VersionOne) [Di21], many agile initiatives start at the level of clearly defined projects, mostly with a great tendency towards IT or software development projects. The studies mention a focus on technical areas rather than the agile development of an entire organization [KTK18]. Various studies already investigated agile leadership and different leadership styles on team level. Especially the leadership aspects of the Product Owner and Scrum Master roles [DKZ15] received attention by research. Leadership is not described as the responsibility of a single role, but that of the whole team [GR18] [SGHW20].

About ten years ago, the agile trend has reached non-technical areas and thus increasingly lead to the areas of agile organizational development as well as agility on all management levels. Around that time, the first books [Ap11] appeared with a description of what modern leadership inside agile organizations might look like. A maturity model for agile organizations was proposed that also addressed management as a key factor [Kr16]. [Kr17] discusses agile leadership and management in the context of a traditional environment as well as the role of an agile leader to unite both worlds. At this interface, challenges regarding project planning or reporting are discussed by [TD18]. Gloger [G117] describes

six levels (or building blocks) of what should be considered in large scale projects. In [GR17] or [HZ20], the authors give a clear idea about what a modern leader should look like and what the challenges are they have to face. In order to not neglect agile culture, an approach to transition must be chosen that takes both technical and cultural agility into account [DKZ15]. [GL20] identifies challenges regarding group dynamics that are not covered in most process-focused agile frameworks, which shows the important role of agile leaders during an agile transition.

There is not much scientific literature that discusses agile leadership on an organizational level. [AA20] highlights the importance of agile leadership in establishing organizational agility. Organizational agility is defined and the concept of agile leadership as well as competencies of agile leaders (that are necessary to achieve organizational agility) are described. Finally, our systematic literature review summarizes the state of the art on agile leadership [TPKS20].

3 Research Method

We decided to carry out expert workshops for data collection in order to facilitate discussions among participants and thereby get more interesting results.

3.1 Research Questions

For our workshops, we formulated the following research questions (RQ):

RQ1: What are important characteristics of agile leadership?

Since there is no common baseline for agile leadership, we wanted to elicit experts' opinions on how they perceive the concept. Therefore, this RQ aims to understand how agile leadership can be summarized.

RQ2: What are tasks and responsibilities of agile leaders?

The concept of agile leadership needs individuals that embody its core as agile leaders within an organization. They, in turn, are defined by the tasks and responsibilities demonstrated on a daily base. To get an understanding of what can be expected from agile leaders, we formulated this RQ.

RQ3: Which preconditions exist for agile leadership?

The introduction of agile leadership is seldom an easy task and relies on certain prerequisites. This RQ investigates the aspects that are important in this regard and therefore necessary to provide a foundation on which agile leadership can thrive.

3.2 Data Collection

Our choice of participants consisted of people who have been part of the agile community for a long time and who professionally deal with the concept of agile leadership. We used our network within the agile community to invite 28 people to participate and offered three

possible dates in June 2021 for the workshops to take place. Ten experts from Germany, India and the USA accepted our invitation, offering perspectives from across the globe. They all occupy leadership roles in an agile environment, such as CEO of an agile company or agile coach working with leaders either from within an organization or as external consultant. Each of them has minimum 5-10 years of practical experience in their respective role and some are known authors of literature on agile subjects. Five of them participated in the first workshop, three in the second one, and two in the last one. Due to the international distribution of our participants, all workshops were held online on a digital whiteboard and using a video conference tool. Each workshop lasted 90 minutes. The main part of each workshop was divided into three rounds, covering the research questions from above. At the beginning of each round, we explained the respective question to make sure everybody had the same understanding of the topic at hand. Afterwards, the participants were given time to formulate their perspectives and write them down on notes. These notes were presented and explained to the other participants followed by a group discussion.

3.3 Data Analysis

After data collection, the notes of our participants were already available in a suitable state, so we decided to use them as a basis for the data analysis as they were. We then applied axial coding to these notes in order to reach a higher level of abstraction. The whole coding process was conducted by the first four authors through individual analysis followed by joint discussions. We formed concepts from the notes and clustered similar concepts to find different categories that describe agile leadership. To explain our coding process in more detail, (Fig.1: Example of notes, concepts and category) illustrates how we derived the category "Continuous Improvement" from the data.

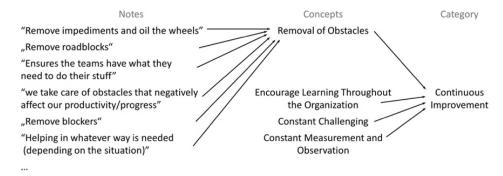


Fig. 1: Example of notes, concepts and category

On the left side of (Fig.1: Example of notes, concepts and category), some examples of our participants' notes can be seen. From these notes, we derived the concept "Removal of Obstacles". This was then again grouped with similar concepts such as "Encourage Learning Throughout the Organization", "Constant Challenging", and "Constant Measurement and Observation", which came from different sets of notes. Finally, we formed the category "Continuous Improvement" from these concepts in order to achieve a last

level of abstraction. This process was conducted for all notes collected during our workshops. For a more self-explanatory use, "concepts" are referred to as "guiding principles" in the following.

4 Results

This section presents the results of our workshops. Therefore, one can see an overview of all categories and their corresponding guiding principles below in (Tab.1: Overview of categories and guiding principles), followed by an explanation structured along our research questions.

Categories	Guiding Principles
Continuous Improvement	Encourage Learning Throughout the Organization
	Removal of Obstacles
	Constant Challenging
	Constant Measurement and Observation
Framework and Conditions	Values and Mindset
	Definition of Framework
	Management and Definition of Roles
	Situational Leadership
Customers and Delivery	Stakeholder Management
-	Customer Centricity
Right Characteristics of Leaders	Assume Responsibility
	Flexibility
	Empathy
	Charisma
	Availability
	Agile Skill Set
	Communication
	Ensure Motivation
	Role Model
Vision and Goals	Creation of Goals
	Ensure Alignment
Commitment of Top Management	Willingness to Change
	Enable Transformation
Self-Organized Teams	Enable and Encourage Self-Organization
	Provide Psychological Safety
	Team Legitimization of Leadership
	Ensure Integrated Teams

Tab. 1: Overview of categories and guiding principles

4.1 Continuous Improvement

Description: The first category of agile leadership we identified is about continuous improvement. According to our participants, the most important aspect of improvement is to encourage fast learning throughout the organization. That is, not only single teams should

learn but the organization as a whole. This is important to enable adaptability to change and a resilient organization.

Preconditions: For continuous learning, openness to risk as well as space and time for reflection are important. Learning means that there has to be room for false decisions and mistakes. Therefore, the willingness to make mistakes, take risks, and conduct experiments has to be present in the organization. Further, continuous learning includes constantly making observations, performing measurements, and gathering feedback. Tasks and Responsibilities: To drive the learning process and create a learning environment, agile leaders must constantly challenge the status quo and question the way of working in order to look for improvements and better ways of working. They must be the force that constantly provokes and initiates discussions about improvements. Also, the encouragement of learning begins with self-learning. It is less about changing others and more about leading by example and thereby encouraging change. To make experiences useful to the whole organization, agile leaders have to ensure that failures are admitted, and lessons learned as well as success stories are shared. In this way, everyone contributes to the learning process of each other. Another important aspect of constant improvement is to remove obstacles and create an environment, in which teams can thrive and deliver value. For agile leaders, this means that (depending on the situation) they will help in whatever way necessary to ensure that teams have all they need. Obstacles that hinder the productivity of teams have to be identified and removed.

4.2 Framework and Conditions

Description: Every company has a chosen organizational design that defines how to operate in specific areas and situations as well as specific frameworks and guidelines regarding the operation within projects, programs and portfolios. Further, there are values defining how one wants to work together that also strongly influence corporate culture. All of this directly impacts leadership culture. For example, in a very strict and hierarchically designed organization it might be difficult to find leaders that encourage self-organization. **Preconditions:** The participants of our workshops stated that silos have to be dissolved and a more flexible organizational designs should be strived for. It is important to set a framework with certain parameters for the whole organization in which the teams can then operate. A major part of the definition of the framework are clear roles and responsibilities. Another precondition for agile leadership is that all people at all levels of the organization (especially top management) live the agile values and also work with agile approaches. **Tasks and Responsibilities:** For agile leader it is crucial to separate work management from people management. Agile leaders need to manage work and delegate tasks and re-

from people management. Agile leaders need to manage work and delegate tasks and responsibilities, but they should not manage individuals and how they do their work. Instead, they should enable employees to evolve, foster them individually and recognize that everyone can be a leader at some point. Agile leaders have to adjust to the conditions that they are in. Some situations demand that they give direction and make decisions. Other situations require a more serving and supporting attitude of agile leaders. The challenge is to find the right approach to leadership in a given situation. To do so, agile leaders need an appropriate toolbox of leadership techniques they can use. Sometimes agile leaders need to focus on individuals or teams, but they should always keep the organization as a whole in mind and therefore lead both horizontally and vertically.

4.3 Customer and Delivery

Description: One of the core principals in the agile manifest is that delivering value to the customer is more important than following contract negotiations.

Preconditions: Identifying the right partners for business in the first place and finding a common goal to continuously work towards.

Tasks and Responsibilities: Understanding the customers perspective and creating valuable outcomes are the most significant criteria for success. In traditional leadership, the customers need played an important role as well, however, the agile movement demands that all tasks are pointed towards creating customer value. Agile leadership puts an emphasis on customer value and makes it the basis for all decisions. It is much more important to create real value (outcome) than simply producing "as much as possible" (output).

4.4 Right Characteristics of Leaders

Description: This category highlights the characteristics an agile leader should possess (see tasks and responsibilities below).

Preconditions: First of all, agile leaders are sophisticated characters who build trust by showing vulnerability and act as role models who live by and demonstrate an agile mind-set. They are driven by purpose and use this to motivate and inspire others, thereby increasing productivity. On an interpersonal level, agile leaders are empathetic and charismatic individuals as well as good listeners.

Tasks and Responsibilities: Agile leaders are able and willing to assume responsibility by making focused decisions, especially in uncertain circumstances. They are highly visible and available to the people they are responsible for, always have an open ear, provide feedback regularly, and offer support whenever needed. Furthermore, agile leaders are great communicators, who think in an interdisciplinary manner and can foster collaboration between otherwise unrelated areas of expertise. From a more practical point of view, agile leaders have the mental flexibility to learn about and quickly familiarize themselves with new and relevant subjects that will inevitably arise. They are willing to take (sensible) risks and can not only deal with, but actively lead change. Finally, they possess extensive knowledge of agile skills and innovative methods, which they can apply to a multitude of situations and problems. Agile leaders are focused on being flexible and adaptable in all kinds of situations. Agile leadership provides psychological safety and an error culture where individuals are allowed to make mistakes.

4.5 Vision and Goals

Description: The importance of vision and goals are related to the big picture an organization pursues, its overall purpose, the challenges and needs that are addressed, as well as the outcomes that should be achieved.

Preconditions: The vision and goals need to be understood as means govern the strategy regarding projects and activities, influence the culture of the organization, and provide direction for teams and individuals.

Tasks and Responsibilities: It is the task of agile leaders (and in a sense the prerequisite to agile leadership itself) to clearly define such vision and goals and actively communicate and demonstrate them to the people in the organization. It is imperative that the big picture

is widely understood, and all relevant factors are aligned accordingly. It should also be noted that vision and goals are neither written in stone nor self-sustaining. They may require adaptation to stay relevant over time and translated into tangible actions.

4.6 Commitment of Top Management

Description: This category highlights the commitment of top management as a prerequisite for agile leadership.

Preconditions: Only if the top management communicates what kind of leadership is aspired for the organization and supports its transformation, such a cultural change can be successfully implemented. In order for this to happen, top management needs to be openminded and fully committed to the journey instead of just trying to achieve an arbitrary objective or half-heartedly following a trend.

Tasks and Responsibilities: Agile leaders need to demonstrate the willingness to change and transform the organization and even themselves. This includes having the patience, providing the resources and generally enabling change agents to bring about a lasting transformation.

4.7 Self-Organized Teams

Description: While the other categories show a fundamental change in focus and behavior a modern (agile) leader must display, the category of "Self-Organized Teams" is totally new and might be the most remarkable change modern organizations and especially leaders have to undergo while transforming. The idea and concept behind self-organized teams brings fundamental changes to the traditional view and idea of building up and leading teams and organizations. Certain aspects of traditional leadership, such as the "command and control" management of teams, have become obsolete. This influences the organizational design that is needed in order to run self-organized teams successfully.

Preconditions: Teams need to be empowered and enabled to effectively manage themselves. Therefore, leadership that can guide teams to self-realization [GR17] is needed. This also includes and is reinforced by organized participation in important decisions that may influence them and their work. It also implies giving teams more responsibility while trusting them to do the right thing. In this case, agile leaders should focus on setting up the right conditions and providing guidance if need be.

Tasks and Responsibilities: Agile leaders should perceive and treat teams holistically. This means supporting and promoting teamwork but also ensuring that a team has the ability (and thus the skills) to achieve its goals effectively and independently. For that to happen, it is important to facilitate personal and professional development of the respective individuals in order to help them become a cohesive unit and ultimately succeed. To further foster (rather than undermine) such unity, metrics regarding organizational goals should also be applied to teams as a whole. Another key factor in this regard is psychological safety. On one hand, this describes a safe space characterized by trust (rather than control) that embraces creativity. On the other hand, this includes a culture that accepts mistakes as an integral part of learning and improvement instead of penalizing them and thereby impeding the latter. Finally, it should be mentioned that leadership in the agile context is, first and foremost, legitimized by the willingness of people to follow someone rather than a person being formally appointed as leader.

5 Discussion

This section first addresses the results, focusing on the perceived change of focus in leadership. Afterwards, the threats to validity of this research are discussed.

5.1 Change of Leadership

We presented seven categories as a baseline for agile leadership. The latter largely consists of the same categories that also characterize traditional leadership (as described e.g. by Kotter [Ko90]) though the goals of each category and the way of leading people to achieve them has changed. One participant of our workshops even mentioned that good leadership in the past might (quite likely) still be good leadership in the present. However, we realized that there is a change of focus when in agile leadership. Below, two distinct differences compared to traditional leadership are described:

- The categories we found might, for the most part, fit traditional leadership, however, goals and responsibilities in modern (agile) leadership differ. As mentioned, traditional leadership is focused on stability by centralized decisions, a hierarchical organizational design as well as a "command and control" structure. Agile leadership emphasizes sustainability, diversity and self-organization in order to achieve the ability to react quickly to changes, stay resilient in fast growing, radically changing markets and to deal with complexity in general. An example to highlight the difference in mentality: traditional leaders might gather lessons learned roughly every 6 to 12 months, after finishing a project or a working period. Agile leaders however might promote so called retrospectives every 2 to 4 weeks on project level and every 4 to 6 weeks on the top management and strategic level.
- The category of self-organized teams is completely new to leadership since it didn't really exist before the rise of agility in the 1990s. Our results show that agile leadership generally strives to abolish the need for traditional management. Only the supporting disciplines (see guiding principles above) are maintained and merged with leadership roles. The controlling and planning tasks (at the core of traditional management) move to the teams resulting in self-organization that enables better communication and faster development. However, self-organization has to be actively encouraged and supported in order unfold its potential.

5.2 Threats to Validity

Our research is subject to certain threats to validity. According to Maxwell [Ma92], we will discuss descriptive, theoretical, and interpretive validity and generalizability.

Descriptive Validity: Descriptive validity considers the correctness of the made observations. In order to mitigate this threat, we let all participants write down their thoughts and explain it to the other workshop participants. Whenever a point was not self-explanatory enough or unclear, clarification was requested from the participant and documented. The first four (of five) authors participated in the workshops to facilitate this process.

Theoretical Validity: Theoretical validity considers the extent to which we were able to collect relevant aspects. To mitigate this threat, we conducted a systematic literature review (SLR) before the interviews [25]. The questions the SLR left open served as basis for the research questions stated above. The latter were extensively discussed among the authors and constantly refined. Further the chosen format for data collection (workshops) enabled all participants to discuss their thoughts and provide different views. We also ensured that they were given extensive time to do so for each research question. During the selection of participants, we also focused on agile experts that are sufficiently experienced in the field.

Interpretive Validity: The interpretative validity considers the conclusions drawn from the data. The results presented in this paper were mentioned multiple times by different participants. We let the participants discuss their thoughts so they could come to a common understanding. The coding process was conducted by the first four authors together. A consensus on codes, concepts and categories was reached among the authors and the mono researcher threat was eliminated.

Generalizability: In order to reach a high generalizability, we invited 28 experts to our workshop. The 10 actual participants provide experience that is not limited to only one country but rather spreads across America, Europe and Asia). However, we cannot guarantee that every potentially relevant aspect has be mentioned.

6 Conclusion

Agile leadership on organizational level has not been sufficiently investigated by research so far. To better understand the topic, we conducted three workshops with experts in the field of agile leadership. During these workshops, we investigated characteristics of agile leadership, the tasks and responsibilities of agile leaders, and preconditions needed. We discovered seven categories (comprising several guiding principles) that characterize agile leadership. To summarize, the latter is about fostering self-organization, setting up the right framework and conditions to enable effective and efficient work, and alignment through vision and goals. There is an increased focus on customers and delivering value, as well as continuous improvement. Agile leadership relies on suitable leaders with the right characteristics and needs commitment of top management. We further identified that self-organization is the only really new aspect compared to traditional leadership. However, the results highlight that agile leadership differs in the focus and the concrete implementation of the other categories. In future work, we want to conduct a detailed analysis of this shift of focus between agile and traditional leadership. Another follow-up research could address the current state of agile leadership in organizations and potential actions to enable improvement.

Acknowledgments

We thank all experts for participating in our study and Sonnhild Namingha for proof-reading parts of the paper. This research is partially funded by the German Ministry of Education and Research (BMBF) as part of a Software Campus project (01IS17047).

References

- [AA20] Attar, M.; Abdul-Kareem, A.: The role of agile leadership in organizational agility, 2020.
- [Ap11] Appelo, J.: Management 3.0 Leading Agile Developers, Developing Agile Leaders. Addison Wesley, 2011.
- [Di21] Digital.ai: The 15th State of Agile Survey, 2021.
- [DKZ15] Diebold, P.; Küpper, S.; Zehler, T.: Nachhaltige agile Transition: Symbiose von technischer und kultureller Agilität. Projektmanagement und Vorgehensmodelle, 2015.
- [Gl17] Gloger, B.: SCRUM Think b!g. Hanser Verlag, 2017.
- [GL20] Gren, L.; Lindman, M.: What an agile leader does: The group dynamics perspective. In: Stray, V., Hoda, R., Paasivaara, M., Kruchten, P. (eds.) Agile Processes in Software Engineering and Extreme Programming. pp. 178–194. Springer International Publishing, Cham, 2020.
- [GR17] Gloger, B.; Rösner, D.: Self-organization needs Leadership. Hanser Verlag, 2017.
- [GR18] Gren, L.; Ralph, P.: What makes effective leadership in agile software development teams? arXiv preprint arXiv:2201.08058
- [HZ20] Hamel, G.; Zanini, M.: Humanocracy: Creating Organizations as Amazing as the People Inside Them. Harvard Business Review Press, 2020.
- [Ko90] Kotter, J.P.: A force for change: How leadership differs from management. Free Press, Collier Macmillan. New York, London, 1990.
- [Kr16] Krieg, A.: Reifegradmodell zur Messung agiler Unternehmensentwicklung. Lecture Notes in Informatics, Gesellschaft für Informatik, Bonn, S pp. 162–169, 2016.
- [Kr17] Krieg, A.: Agiler Projektleiter–Vermittler und Moderator im hybriden Projektumfeld. Projektmanagement und Vorgehensmodelle 2017-Die Spannung zwischen dem Prozess und den Menschen im Projekt, 2017.
- [KTK18] Krieg, A.; Theobald, S.; Küpper, S.: Erfolgreiche agile Projekte benötigen ein agiles Umfeld. In: Mikuzs, M., Volland, A., Engstler, M., Masud, F.B., Hanser, E., Linssen, O. (eds.) Projektmanagement und Vorgehensmodelle 2018 - Der Einfluss der Digitalisierung auf Projektmanagementmethoden und Entwicklungsprozesse. pp. 217–222. Gesellschaft für Informatik, Bonn, 2018.
- [Ma92] Maxwell, J.: Understanding and Validity in Qualitative Research. Harvard Educational Review 62, 279–300 01, 1992.
- [MG06] Murray, A.; Greenes, K.: New leadership strategies for the enterprise of the future. VINE 36, 358–370, 2006.
- [SGHW20] Spiegler, S.; Graziotin, D.; Heinecke, C., Wagner, S.: A quantitative exploration of the 9-factor theory: Distribution of leadership roles between scrum master and agile team. Lecture Notes in Business Information Processing 383 LNBIP, 162–177, 2020.
- [TD18] Theobald, S.; Diebold, P.: Interface problems of agile in a non-agile environment. In: International Conference on Agile Software Development. pp. 123–130. Springer, 2018.
- [TPKS20] Theobald, S.; Prenner, N.; Krieg, A.; Schneider, K.: Agile Leadership and Agile Management on Organizational Level A Systematic Literature Review. In: Product-Focused Software Process Improvement. pp. 20–36. PROFES'20, Springer International Publishing, Cham, 2020.