

# How to intentionally forget rules in newly introduced agile projects

## A case study of a multinational automotive company

Marcel F. Volland

*Chair for Organization and Management, University of Hamburg,  
Hamburg, Germany*

Received 15 October 2018  
Revised 16 January 2019  
3 March 2019  
3 April 2019  
28 April 2019  
7 May 2019  
Accepted 15 May 2019

### Abstract

**Purpose** – While much empirical research has examined how routines are unlearned, little is known about the intentional forgetting of rules in organizations. This paper aims to combine the literature on organizational rules and that on intentional forgetting with the aim of studying the relationship between power types of rule imposition and the process of intentional forgetting.

**Design/methodology/approach** – This study is a single-case analysis carried out in a multinational automotive company that introduced an agile project into the development department. The case was chosen because the introduction of agility was grounded on a dominantly created set of rules. Access to unique data was provided to study processes of intentional forgetting when actors have to apply new rules. In all, 33 interviews and further observations were conducted in a two-year study. Qualitative comparative analysis (QCA) was used for data analysis.

**Findings** – This case study demonstrates the importance of two forms of power, domination and self-organization, when it comes to forgetting rules intentionally. A rule will be intentionally forgotten if it is created by domination, does not originate from conventional working practices and does not determine an organizational unit (development team). Furthermore, the findings point to the importance of self-organization when it comes to intentional forgetting.

**Research limitations/implications** – This research relies on a single-case study and presents first results on intentionally forgetting rules.

**Practical implications** – Organizations implementing new forms of working such as agile working in their existing structures should be aware that processes of intentional forgetting can occur. Managers should consider why organizational members stop following dominantly created rules. Ignoring such a phenomenon could be a threat to the organization's success.

**Originality/value** – While many studies examined the process of unlearning routines, little is known about the intentional forgetting of rules in organizations. Rules are different from routines because they are imposed and encompass a normative component. The imposition of a rule is based on power. Two forms of power are presented in this article: domination and self-organization. In addition, the QCA was carried out at a micro-level.

**Keywords** Agility, Scrum, Unlearning, Automotive industry, Rules, Intentional forgetting

**Paper type** Case study



### Introduction

A central debate in the literature on unlearning concerns how actors intentionally forget routines (Huber, 1991; Kluge and Gronau, 2018; Martin de Holan, 2011; Tsang and Zahra, 2008; Zhao *et al.*, 2013). Surveys such as those conducted by Tsang and Zahra (2008) and Martin de Holan (2011) showed very clearly that organizational routines could be understood as a type of organizational knowledge that can be accidentally or intentionally

---

forgotten. This approach is in accordance with the research on intentional forgetting in organizational change processes (Hedberg, 1981; Huber, 1991; Walsh and Ungson, 1991; see also Klammer and Gueldenberg, 2019). Yet, a striking feature of the literature on intentional forgetting is that it has not examined how knowledge of rule-following is intentionally forgotten in organizations. That raises a crucial issue, since rules guide actions and therefore are central to organizations (Giddens, 1986; Ortmann, 2010). Therefore, the key premise of this paper is that not only intentional forgetting of routines is significant to organizations but also intentional forgetting of rules. Routines are certainly in part similar to rule-following. They are repetitive actions that coordinate human behavior (Feldman and Pentland, 2003). However, there is a striking difference: in contrast to routines, rule-following is founded on a normative guideline which is the rule itself. Power constitutes this normative component, because rules are imposed either by an individual or by a collective. Accordingly, literature on organizational rules presents two forms of power on which rules are based: *domination* or *self-determination* (Romme, 1999). Both concepts show that rule creation is based on power and, therefore, also on *intentions*.

The existing literature on intentional forgetting in organizations is primarily concerned with routines and does not address the relation between both forms of power in the process of intentional forgetting. Research on organizational rules has taken a crucial part in the learning literature. However, it understands discarding rules as *accidental* forgetting (Kieser and Koch, 2008) and has paid less attention to the phenomenon of *intentional* forgetting. This gap needs further exploration. It is related to the criticism (Howells and Scholderer, 2016) that a concept of unlearning is not necessary for organization research, because organizational problems can be approached by other common concepts of learning. Therefore, this study aims to show the value of the theoretical model of intentional forgetting that differs from those of research streams focusing on organizational rules.

This fieldwork study was conducted in a world-famous multinational car manufacturing company that set up time-limited agile projects. What became apparent in these newly introduced agile projects with a fixed set of rules – partly relying on self-organization – was that actors immediately applied only some of the new agile rules. At the same time, they still used some of the rules that were familiar to them from conventional working practices. Both the unexpected retrieval of some of the rules from conventional project management and the disappearance of some of the new agile rules raised the question of whether a kind of intentional forgetting took place. Therefore, this paper investigates how power works in the process of intentional forgetting of rules.

## Theoretical framework

### *Unlearning as intentional forgetting*

Literature offers a wide diversity of definitions of *unlearning*. Originally, research on organizations was based on the assumption that organizations have the ability to learn. Organizational researchers were very involved in examining *learning* capacities of organizations (Argote and Ingram, 2000; Ren and Argote, 2011). Some of them focused on learning strategies of actors in organizations who are required to apply rules (Kieser and Koch, 2008). According to them, only an additive learning process takes place because the organizational memory can only grow. That is why they only asked how organizations are able to retain knowledge and keep adding to it. Other researchers, however, shifted the focus onto the concept of unlearning:

---

Knowledge grows, and simultaneously it becomes obsolete as reality changes. Understanding involves both learning new knowledge and discarding obsolete and misleading knowledge. The discarding activity – unlearning – is as important a part of understanding as is adding new knowledge (Hedberg, 1981, p. 3).

As Klammer and Gueldenberg (2019), Tsang (2017), and Visser (2017) described, unlearning is distinct from learning. According to them, unlearning is a phenomenon that can be analyzed in isolation from learning processes. Therefore, unlearning can be broadly defined as a discarding activity of organizational knowledge (Martin de Holan, 2011; Tsang, 2017; Tsang and Zahra, 2008). Unlearning can take place unconsciously, i.e. accidentally (Easterby-Smith and Lyles, 2011; Fernandez and Sune, 2009; Haunschild *et al.*, 2015; Klammer and Guldenberg, 2019; Martin de Holan *et al.*, 2004). This kind of unlearning may simply be called forgetting (Fernandez and Sune, 2009).

The term unlearning is also used to refer to *intentional forgetting*, because, for many scholars, unlearning is an intentional process (Klammer and Gueldenberg, 2019; Tsang and Zahra, 2008), or rather, a voluntary act (Martin de Holan, 2011). Intentional forgetting is much more complex than simple forgetting. At an individual level, the concept of intentional forgetting is defined as „processes that deliberately impede the recall of certain organizational memory items, and do not provide these memory items and information elements in the case of a certain query in order to support an organization’s changed strategic goal achievement” (Kluge and Gronau, 2018, p. 4). Intentional forgetting only occurs when a new routine is collectively followed: “The forgetting of routines is supported by eliminating all salient retrieval cues that can activate the to-be-forgotten routine and by making cues that enhance the execution of the new routine maximally salient” (Kluge and Gronau, 2018, p. 11). In fact, an actor needs to be consciously aware that he or she wants to forget knowledge about how to apply familiar rules. The concept of intentional forgetting can also be transferred to the organizational level (Agkūn *et al.*, 2006; Zhao *et al.*, 2013) or rather to the concept of rule-following in organizations.

Many studies have examined how organizational *routines* are unlearned (Martin de Holan, 2011). Some researchers described unlearning as a process of substitution: “When old routines are replaced by new ones, they are gradually removed from an organization’s memory” (Tsang and Zahra, 2008, p. 1447). In this case, it is more likely that a specific memory item will not be used than that it will be completely forgotten. In fact, an old “to-be-forgotten” memory item has to be substituted by a new memory item (Bjork and Bjork, 1992). Tsang and Zahra (2008) also stressed that unlearning routines is not exclusively a substitution process but can also be an isolated process, “that is, the discarding of a routine may not be followed by a replacement” (Tsang and Zahra, 2008, p. 1442). However, this study follows the first assumption that unlearning occurs as a process of substitution.

#### *Rule-following and intentional forgetting: combining two research streams*

The literature on organizational rules has explored the influences on intentional forgetting in organizations and focused empirically on unlearning processes of routines. Researchers were interested in exploring how the stored knowledge of routines is unlearned (Martin de Holan, 2011; Tsang and Zahra, 2008). However, there is only little empirical research on the phenomenon of unlearning within the meaning of *intentional forgetting of rules*. Current literature on organizational rules describes that crystallized knowledge is retrievable, even when actors must act together in a rule-free context (Crozier and Friedberg, 1980). What remains unknown is how knowledge about rule-following is intentionally forgotten, even if actors are subject to only a few rules. This requires them not only to follow the rules but also to deliberately substitute them.

Rules are the basis for organizational structure, because they guide actions in organizations (Giddens, 1986). In line with Ortmann (2010), this study assumes rules to be imposed, normatively connoted, generalizable procedures of practice. In contrast, routines are “repetitive, recognizable patterns of interdependent actions, carried out by multiple actors” (Feldman and Pentland, 2003). Rules always include a normative aspect, because they encompass information about how something should be done (Ortmann, 2010; Wittgenstein, 1958). Furthermore, rules are imposed, meaning they are created by power (Ortmann, 2010). The starting point of rule-following can be an intention concluding that an actor is aware of the fact that the rule is immediately valid and he or she has to follow it. This proposition can be adopted to understand *intentional forgetting* of rules, because following a rule also includes a memory item. Rule-following can be seen as a kind of “knowledge-use practice” (Nag *et al.*, 2007, p. 841), i.e. the interpretation and following of a rule (Ortmann, 2010). Some scholars call this crystallized knowledge (Kieser and Koch, 2008; March *et al.*, 2000; Nelson and Winter, 1982). This term is generally understood as a “prime mechanism to prevent or minimize knowledge decay” (Martin de Holan, 2011, p. 319), which means in this context that when a rule becomes a standard procedure, patterns of behavior become institutionalized. This understanding of intentional forgetting as a substitution of familiar knowledge can also be adopted to the organizational level. When actors unlearn to follow a rule, it can be presumed that this rule is *substituted* by another rule that actors now follow. This seems to be the essential attribute of the process of unlearning in organizations: organizational knowledge is substituted by new knowledge (Starbuck, 2017).

Consequently, unlearning rule-following would mean to intentionally forget implicit knowledge. To achieve this, a simple solution would be to erase the rule from memory. Without the rule, respectively the retrieval cue, there is no possibility to retrieve the implicit knowledge (Bjork and Bjork, 1992). However, is the memory item completely irretrievable or is it simply stored until the affected rule reappears (Kluge and Gronau, 2018; Kluge *et al.*, 2018)? The thesis is that stored, remaining knowledge can only be discarded by *substitution*, which means that the rule retrieval cue has to be substituted by another rule retrieval cue (see also Nystrom and Starbuck, 1984). This substitution can take place if the substituting rule retrieval cue fulfills the same function in the organization as the substituted rule retrieval cue.

### *Two forms of rule creation: domination and self-organization*

To understand intentional forgetting of rules, it is necessary to be aware of how rules are created, especially when intentional forgetting encompasses a process of substitution. Rules can be grounded in different logics of power: domination and self-organization (Romme, 1999). Both rule creation by domination and rule creation by self-organization rely on intentional actions. The conception of power assumes that actors consciously want people to do things they would not otherwise do. The conclusion might be that not only rule creation but also the substitution of rules is based on power. Consequently, this study wants to explore how these two forms of power are related to the intentional forgetting process of rules. Even though Tsang and Zahra (2008) mentioned the aspect of power in their article, they did not include this special aspect in their analyses of intentional forgetting of routines.

First, rules can be created through domination, i.e. an authority formulates the rule due to its competence to enforce things. The concept of *domination* means that someone has “power over others, in terms of the capacity of an actor to carry out his own resistance to other people—for example, getting people to do things they would not otherwise do” (Romme, 1999, p. 803). The employees’ rule-following is also based on this dominant position of the authority. In traditional organizations, actors issue regulations through domination.

---

However, it is not uncommon that employees deviate from these rules by either breaking or ignoring the rules.

Second, rules can be formulated through self-organization that is based on the idea of power. According to the theory of self-determination, power is the ability to act autonomously. At the individual level, this means to make full use of one's own possibilities to satisfy one's own needs (Ryan and Deci, 2000). At a collective level, groups or teams act self-determinedly when "they are capable of negotiating, deciding and acting together voluntarily" (Romme, 1999, p. 803, referring to Dahl, 1989, Emery, 1980). In this case, the rule is created by a collective decision, by vote or collective acceptance. This sort of rule is not based on the absolute power of an authority but emerges through voluntary collective negotiation, decision, and action.

### Data and methods

This research aims to elaborate on existing theories about intentional forgetting and organizational rules and to provide first insights into the relationship of the types of power (rule creation) and the conditions under which rules are intentionally forgotten. The focal organizational process is the introduction of a new structural concept (agility) into a traditional company. The research design is a single case that includes embedded mini-cases (Eisenhardt, 1989; Yin, 2018).

Furthermore, this study carried out qualitative comparative analysis (QCA) at a micro-level. This is a new method in management research which allows to transfer a case-based research method to a single case study and to consider each rule in the agile project as one case. The logic of Boolean algebra was applied to the micro level, because there were also conditions that influenced processes of change. This approach helps to expand the understanding of the conditions under which organizational actors can unlearn rules.

### *Company background*

To understand how actors intentionally forget rules, one of the world's largest multinational automotive groups was chosen for the case study. The study focuses on a car plant, a subsidiary of the automotive group. Its development unit is structured as a line organization. Formalization and standardized work are very extensive. In 2017, the head of the car development division set up a pilot team to employ the agile method Scrum in the development of a new technical product. Agile working, especially the Scrum method, combines two forms of power: domination and self-organization. In contrast, traditional working practices in conventional companies are characterized by the fact that rules are dominantly imposed. The agile project "Icarus" was a temporary project. Regular employees of the division could temporarily join the project team until the product model they were developing moved into production. The special aspect of the project was the targeted short development time of 18 months. The conventional process of developing a car – from formulating the first concept to the start of production on the factory floor – usually takes 48 months. This procedure is always strictly bound to coercive manuals that are formulated by dominant authorities (Romme, 1999) and determine the actions the actors have to comply with. Deviation is only possible if a supervisor approves.

When the project Icarus started introducing the agile method Scrum, there was a small set of rules on roles, meetings and procedures for the team members. The initiators had copied these rules from existing consulting literature on agile project management. The team members had not participated in this process of selection and creation of rules. At the time of its implementation, the project consisted of Product Owners[1], Agile Coaches[2], a

---

meeting plan and 11 development teams. The initial meeting plan and the roles of Product Owners were dominantly formulated rules. Only the teams were self-organized.

### *Data collection*

To understand how actors intentionally forget rules in agile projects, as described above, 33 interviews were conducted between November 2016 and May 2018. The interviewees were recruited by using a snowball sampling procedure (Grant and Mayer, 2009). To triangulate insights from different sources, individuals across all levels of the company were questioned, including engineers, team leaders, group leaders, and managers. The interviews were semi-structured and lasted 60 to 120 min each. Most of the interviews were conducted by two researchers and were recorded and transcribed. Some key informants were interviewed in greater depth, in some cases even several times. All informants were interviewed about their job history, their roles in the conventional work process and their experience in agile project management. In addition, team and management team meetings were observed during the course of the agile project. The focus was on these meetings because rule creation and rule variation usually take place at this level. The following project-specific meetings were part of the observation: 14 Dailies, 6 Daily Plus Meetings, 4 Plannings “Teams”, 2 Plannings “Complete Vehicle”, 3 Reviews and one Stand-up Meeting and Backlog Refinement. Furthermore, five special workshops for the management and two for the employees were attended. To complete the survey, company documents and workshop presentations were studied. Thirty-three documents and artefacts made it possible to triangulate interferences and to harden the research results.

Ultimately, data on 43 rules that had been applied in the project Icarus between April 2017 and April 2018 were gathered. The rules varied by content, origin (agile or conventional working) and creation (self-organized or dominantly organized).

### *Data analysis*

In a first step, thick descriptions of each organizational rule were formulated to gain first insights (Pettigrew *et al.*, 1988). It was very important to understand the history of each individual rule, especially, at what point and under which circumstances actors decided to substitute it with another rule.

MAXQDA 18, a program for social science-oriented data analysis, was used for coding the interviews. After the interviews had been transcribed, codes that paraphrased the content of specific passages of text were made up. In a second step, these codes were grouped into categories that were general statements. In a third step, categories compatible with the theory of intentional forgetting were created.

### *Qualitative comparative analysis*

To assess which factors affect the project participants' ability to intentionally forget the application of rules, the technique of QCA (Rihoux and Ragin, 2009) was applied. QCA is based on Boolean algebra,

[...] where a case is either in or out of a set, and QCA uses binary-coded data, with 1 indicating membership and 0 indicating non-membership. [...] The typical Boolean-based comparative analysis addresses the presence/absence conditions under which a certain outcome is obtained (that is, is true) (Ragin, 2008, p. 35).

This method is particularly suitable for comparing a relatively small number of cases, as given in an agile project with a small number of rules (Rihoux and Ragin, 2009; Romme, 1995): “The Boolean comparative method treats variables as binary entities, and can deal

---

effectively with patterns of multiple causation, involving combinations of conditions producing a certain outcome” (Romme, 1995, p. 318). Therefore, every individual rule was considered as an individual case.

Kan *et al.* (2016) pointed out that a specific management reality may have a multiplicity of causal paths, and the explanatory approach is central to QCA. QCA allows for identification of multiple and conjunctural causes of intentional forgetting. As mentioned above, rules are complex phenomena, because they can be created by different types of power, and they encompass several types of content. Thus, research on intentional forgetting of rules should account for these various aspects of rules.

## Results

### *Outcomes of the qualitative comparative analysis*

Intentional forgetting is defined as an organizational process of substitution of knowledge. In the case of rules, it means that rules are substituted by other (learned) rules. Therefore, the study investigates the outcomes “substituted” (“subted”) and “substituting” (“subing”) rules, considering both as necessary parts of organizational unlearning. Furthermore, for QCA, conditions had to be set up: half of them were deduced from the framework and the other half from the data analysis. Eight conditions were identified (Table AI): self-organized (rule creation), dominantly organized (rule creation), agile (working), conventional (working), meeting, role, process, organizational unit. The first four conditions stem from the theoretical framework: two of them refer to how the rules were created (self-organized or dominantly organized, see above). The third and fourth conditions refer to the origin of the rule. This means that a rule originated from either agile working or conventional working practices. The conditions five to eight stem from the data analysis. They reflect the contents of the rules of the Icarus project and were also formulated in the course of the data analysis. They describe whether a rule determines a meeting, a role, a process or an organizational unit. All of them are key elements of agile working.

When conducting QCA, the first step was to discern whether the causal conditions were present or absent for each of the cases being compared. Table AII summarizes this step by showing the presence and absence of the eight causal conditions and two outcomes for each of the 43 rules in the project Icarus.

### *Substituted rules*

During the project Icarus, running from April 2017 to April 2018, six rules were substituted by other rules. Four different pathways led to this outcome. The following conditions were necessary for a rule to be substituted: dominantly organized rule creation, absence of self-organized rule creation, absence of conventional working and of organizational unit as content of the rule. Table AIII lists the combination of factors that led to substituted rules. These conditions were sufficient for attaining the outcome in combination with the conditions describing the four pathways:

In the following, one of the four pathways is described to illustrate the process of substitution. Pathway 1 was most prominent, encompassing three of the six rules. The rules determining the frequency of the daily meetings Daily Tuesday, Daily Wednesday and Daily Thursday are illustrative of the *first pathway* to substituted rules. By virtue of their authority, the heads of both the car development division and the HR department introduced these meetings, as well as those on Wednesdays and Fridays, at the very beginning of the project. Both superiors also assumed the project’s roles of Product Owner and Agile Coach. Thus, the rules determining the meetings were imposed by domination. However, while Dailies were held every day at the beginning of the project, their frequency was halved after

---

half a year, and they were only held on Mondays, Wednesdays and Thursdays. This change was a consequence of complaints from project staff about the workload being too heavy due to the high density of daily meetings.

The project members perceived the dominantly imposed daily meetings as coercive rules. The division heads accepted this criticism by changing the rules in accordance with the team. This is where the form of procedural control was modified through self-organization. The density of the meetings was reduced a second time after another two months. From then on, Dailies on Mondays and Thursdays were obligatory, and Dailies on Wednesdays were now considered as optional and were only held if the individual teams saw the need for it. What happened was that the teams still felt overloaded with three Dailies a week despite the first reduction in meeting density, and many project staff did no longer see added value in these many rounds of meetings. Upon instruction of the team members, several team speakers suggested further reducing the number of Dailies to the Product Owners and the Agile Coaches in the DailyPlus Meeting. The DailyPlus is a multi-weekly meeting where team members and Product Owner and Agile Coach share information about the progress of the project work. Finally, in early August 2017, the Product Owner followed these suggestions. Daily meetings on Wednesday were no longer obligatory. After this was announced, the development team “Thermodynamics and Power Unit” immediately abolished the Daily on Wednesdays, whereas other teams such as “Complete Vehicle” and “Exterior” kept it. Depending on the teams’ procedures and requirements, there seem to be different developments in terms of self-organization.

#### *Substituting rules*

Six of the rules in the project Icarus substituted rules that were intentionally forgotten. The following combination of necessary conditions led to substituting rules: self-organized rule creation and the absence of organizational units as determining rule. [Table AIV](#) shows these conditions that were sufficient in combination with either:

The *fourth pathway* is very illustrative of a substituting rule. After nine months of the project period, the development teams introduced so-called “Traffic Light Sheet Meetings”. Many interviewees said that this meeting format finally substituted Dailies where technical issues were not supposed to be discussed. The newly introduced meetings originated in conventional industrial project management. “Traffic light sheets” were forms that team members completed to record development problems with mechanical components. Goals that could be met on schedule were marked in green, targets that were in danger of not being reached in red. In Traffic Light Sheet Meetings, team members were able to report problems. Interviewees indicated that this sort of conventional meeting was revived due to delays in delivery of mechanical components during the project term. From then on, this Traffic Light Sheet Meeting was held every Monday with team speakers and, depending on the issues to be discussed, individual team members and several heads of departments outside of the project. The purpose of this meeting was to handle technical problems.

#### *The process of intentional forgetting*

The analysis showed a substitution of rules by other rules. The question still remains whether this was an intentional process or not. The results demonstrate that the substituting rules were created by self-determination. Self-determination is a *conscious process*, because it is based on power ([Romme, 1999](#)). To sum up, the analysis indicated *two steps* of how this conscious substitution took place:

At the very beginning of the project, members applied Scrum as defined by its dominantly created rules. Observations showed that project members strictly complied with



---

the Scrum rules. However, after half a year, first changes were made. Team members scrutinized the dominantly implemented rules. The consequence was, as described above, a reduction of daily meetings. This was not a process of an unconscious rule drift (Ortmann, 2010) but a conscious decision reached by consensus between the project members. Team members argued that things would not change fast enough in their department for daily reporting in meetings to make much sense. They also criticized the meeting rule for not allowing discussions of technical problems. The strict rules were thus substituted by the Traffic Light Sheet Meeting (see above), the technical team meeting and the electrical team meeting.

To put it differently: After they had become aware of the coercive feature of some of the dominantly introduced rules, the project members started creating new rules that substituted the criticized meeting rules. The rule on Traffic Light Sheet Meetings was an element retrieved from conventional project management. Team members reintroduced this familiar meeting type because it substituted the discarded Dailies and allowed the discussion of technical issues.

Both examples of substituted rules indicate the quality of the process of intentional forgetting: this was a conscious process of substitution because it was an *act of self-determination* by the project members with the effect that dominantly created rules were substituted. The decisions either to discard a rule or to introduce a new substituting rule were addressed by team members or team representatives/speakers. They were not initiated by an authority such as the head of a division, middle managers, or the project leader.

## Concluding discussion

### *Key findings*

This paper based on a single case study on rules in a newly introduced agile project analyzed how power works in the process of intentional forgetting of organizational rules.

The first finding shows that there is a relationship between the two types of power (domination and self-organization) and the process of intentional forgetting. In fact, dominantly created new rules play a significant role when rules are intentionally forgotten. A rule will be intentionally forgotten if two conditions – rule creation by domination and agile working – are present and the rule concerned does not originate from conventional working or relates to an organizational unit (development team). Moreover, this study's findings point to the importance of self-organization in teams. Substituting rules were self-organized by the team, i.e. project members revived some of the rules that were familiar to them. These self-organized rules substituting newly introduced agile rules came from conventional working practices. What is striking about self-organization is that the organizational memory draws on familiar rules instead of creating and learning new ones.

The second finding is that self-organized rules were never changed or substituted – neither by dominantly created nor by self-organized rules. An example: At the very early stage of the project, the members established particular team structures by self-organization, i.e. without the superiors' influence. These structures did not change during the whole project period. This observation can be related to the research of Ostrom (2000), who has argued that self-organized rules are more sustainable than rules that were not created by self-organization.

The third finding presented here is a two-step process of substitution. This extends the understanding of intentional forgetting. Researchers raised the question of whether unlearning is a process that occurs “more or less simultaneously with learning” (Tsang and Zahra, 2008, p. 1447). The literature on unlearning routines, in particular, assumed that new routines substitute old ones. They argued that, “before organizations will try new ideas, they

---

must unlearn old ones by discovering their inadequacies and then discard them” (Nystrom and Starbuck, 1984, p. 53). Other researchers like Tsang and Zahra (2008) suggested that unlearning is not necessarily a precondition for organizational learning. Unlearning could be understood as an isolated phenomenon, i.e. it is a “stand-alone activity, not followed by learning, if the firm eliminates but does not substitute a routine” (Tsang and Zahra, 2008, p. 1452).

#### *Theoretical contribution*

In contrast to Tsang and Zahra (2008), this study relates intentional forgetting to the process of substitution. The analysis indicates that collective decisions to substitute a rule are actions of intention and can occur in two steps. Consequently, in the examined case, new rules substituted old ones. This is in accordance with the concept of intentional forgetting, i.e. that discarding knowledge is a precondition for learning new knowledge. Thus, learning and unlearning are interrelated but in a limited way. In our case, unlearning and learning were *not* processes that occurred *simultaneously*. The substituting rule was created (by self-organization) after project members collectively decided to fully abandon an old rule. Ultimately, these were two *separate* steps. What these steps had in common was that they were deliberate actions.

This case demonstrates that dominantly created rules are unlearned through collective decisions. This result is very important because it clarifies whether the examined rules were cases of organizational forgetting or *intentional* forgetting. Some of the mentioned empirical studies suggested that organizational unlearning refers to a voluntary agency (Martin de Holan, 2011). The results of this study are in line with this assumption.

Furthermore, the understanding of voluntary agency can be extended because the intention of the substitution of rules relies on power: the case showed that substituting rules were created by self-organization, i.e. team members reached a consensus on discarding a rule when they perceived the rule as coercive and not enabling. Team members considered this decision as intentional collective agency, which they expressed explicitly. While Martin de Holan (2011) considered intentional forgetting as an *individual* action, this analysis shows that intentional forgetting (of rules) in organizations is based on *collective* power.

#### *Implications for practice*

The study may be relevant for practitioners as agile methods are frequently used in large companies. However, methods such as Scrum are often applied exactly according to the practitioners’ manuals. Adaptation processes in the sense of intentional forgetting are unavoidable. These necessary adaptation processes take place when employees are given leeway for self-organization. Managers should be aware of unlearning processes when introducing agile working practices.

#### *Limitations and future research directions*

This study’s data derives from a single case analysis. This means that further research on other companies, particularly younger firms, is required to support the findings. After having examined the *conditions* under which rules are intentionally forgotten in newly introduced agile projects, the focus should be shifted onto the *causes*. It should be interesting to examine *why* team members revived familiar rules, even though they had the opportunity to create *truly* new rules but did not. Finally, researchers could further investigate the process of collective decision-making when it comes to intentional forgetting of rules: How do team members interact in concrete situations where they reach the decision to discard a rule? How does power work in groups when people decide collectively to intentionally forget a rule?

## Notes

1. The Product Owner is the development leader (Ktata and Lévesque, 2009, p. 61).
2. The Agile Coach or Scrum Master is “a facilitator responsible for the team adherence to the scrum process” (Ktata and Lévesque, 2009, p. 61).

## References

- Agkūn, A.E., Lynn, G.S. and Byrne, J.C. (2006), “Antecedents and consequences of unlearning in new product development teams”, *Journal of Product Innovation Management*, Vol. 23 No. 1, pp. 73-88.
- Argote, L. and Ingram, P. (2000), “Knowledge transfer: a basis for competitive advantage in firms”, *Organizational Behaviour and Human Decision Processes*, Vol. 82 No. 1, pp. 150-169.
- Bjork, R.A., Bjork, E.L., et al. (1992), “A new theory of disuse and an old theory of stimulus fluctuation”, in Healy, A.F. (Ed.), *From Learning Theory to Connectionist Theory*, Lawrence Erlbaum, Hillsday, pp. 35-68.
- Crozier, M. and Friedberg, E. (1980), *Actors and Systems*, University of Chicago Press, Chicago.
- Easterby-Smith, M. and Lyles, M.A. (2011), *Handbook of Organizational Learning and Knowledge Management*, John Wiley and Sons, Chichester.
- Eisenhardt, K.M. (1989), “Building theories from case study research”, *Academy of Management Review*, Vol. 14 No. 4, pp. 532-550.
- Feldman, M.S. and Pentland, B.T. (2003), “Reconceptualizing organizational routines as a source of flexibility and change”, *Administrative Science Quarterly*, Vol. 48 No. 1, pp. 94-118.
- Fernandez, V. and Sune, A. (2009), “Organizational forgetting and its causes: an empirical research”, *Journal of Organizational Change Management*, Vol. 22 No. 6, pp. 620-634.
- Giddens, A. (1986), *The Constitution of Society: Outline of the Theory of Structuration*, University of CA Press, Berkeley and Los Angeles.
- Grant, A.M. and Mayer, D.M. (2009), “Good soldiers and good actors: prosocial and impression management motives as interactive predictors of affiliative citizenship behaviors”, *Journal of Applied Psychology*, Vol. 94 No. 4, pp. 900-912.
- Haunschild, P.R., Polidoro, F. and Chandler, D. (2015), “Organizational oscillation between learning and forgetting: the dual role of serious errors”, *Organization Science*, Vol. 26 No. 6, pp. 1682-1701.
- Hedberg, B.L.T. (1981), “How organizations learn and unlearn”, in Nystrom, P.C. and Starbuck, W.H. (Eds), *Handbook of Organizational Design: Adapting Organizations to Their Environments*, Oxford University Press, Oxford.
- Howells, J. and Scholderer, J. (2016), “Forget unlearning? How an empirically unwarranted concept from psychology was imported to flourish in management and organisation studies”, *Management Learning*, Vol. 47 No. 4, pp. 443-463.
- Huber, G.P. (1991), “Organizational learning: the contributing processes and the literatures”, *Organization Science*, Vol. 2 No. 1, pp. 88-115.
- Kan, A.K.S., Adegbite, E., El Omari, S. and Abdellatif, M. (2016), “On the use of qualitative comparative analysis in management”, *Journal of Business Research*, Vol. 69 No. 4, pp. 1458-1463.
- Kieser, A. and Koch, U. (2008), “Bounded rationality and organizational learning based on rule changes”, *Management Learning*, Vol. 39 No. 3, pp. 329-347.
- Klammer, A. and Gueldenberg, S. (2019), “Unlearning and forgetting in organizations: a systematic review of literature”, *Journal of Knowledge Management*, Vol. 23 No. 5, pp. 860-888.

- Kluge, A. and Gronau, N. (2018), "Intentional forgetting in organizations: the importance of eliminating retrieval cues for implementing new routines", *Frontiers in Psychology*, Vol. 9 No. 51.
- Kluge, A., Schueffler, A.S., Thim, C., Vladova, G. and Gronau, N. (2018), "putting intentional organisational forgetting to an empirical test: using experimental designs to measure forgetting of organisational routines", *Proceedings of the IFKAD Conference at the Technical University of Delft*, 4-6 July 2018.
- Ktata, O. and Lévesque, G. (2009), "Agile development: Issues and avenues requiring a substantial enhancement of the business perspective in large projects", *ACM International Conference Proceeding Series*, pp. 59-66.
- March, J.G., Schulz, M. and Zhou, X. (2000), *The Dynamics of Rules: Change in Written Organizational Codes*, Stanford University Press, Stanford.
- Martin de Holan, P. (2011), "Agency in voluntary organizational forgetting", *Journal of Management Inquiry*, Vol. 20 No. 3, pp. 317-322.
- Martin de Holan, P., Nelson, P. and Lawrence, T.B. (2004), "Managing organizational forgetting", *MIT Sloan Management Review*, Vol. 45 No. 2, pp. 45-51.
- Nag, R., Corley, K.G. and Gioia, D.A. (2007), "The intersection of organizational identity, knowledge, and practice: attempting strategic change via knowledge grafting", *Academy of Management Journal*, Vol. 50 No. 4, pp. 821-847.
- Nelson, R.R. and Winter, G.S. (1982), *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge, MA.
- Nystrom, P.C. and Starbuck, W.H. (1984), "To avoid organizational crises, unlearn", *Organizational Dynamics*, Vol. 12 No. 4, pp. 53-65.
- Ortmann, G. (2010), "On drifting rules and standards", *Scandinavian Journal of Management*, Vol. 26 No. 2, pp. 204-214.
- Ostrom, E. (2000), "Collective action and the evolution of social norms", *Journal of Economic Perspectives*, Vol. 14 No. 3, pp. 137-158.
- Pettigrew, A., McKee, L. and Ferlie, E. (1988), "Understanding change in the NHS", *Public Administration*, Vol. 66 No. 3, pp. 297-317.
- Ragin, C.C. (2008), *User's Guide to Fuzzy-Set/Qualitative Comparative Analysis*, University of AZ, AZ.
- Ren, Y. and Argote, L. (2011), "Transactive memory systems 1985–2010: an integrative framework of key dimensions, antecedents, and consequences", *The Academy of Management Annals*, Vol. 5 No. 1, pp. 198-229.
- Rihoux, B. and Ragin, C.C. (2009), *Configurational Comparative Methods. Qualitative Comparative Analysis (QCA) and Related Techniques*, Sage Publications, Thousand Oaks.
- Romme, A.G.L. (1995), "Self-organizing processes in top management teams: a boolean comparative approach", *Journal of Business Research*, Vol. 34 No. 1, pp. 11-34.
- Romme, A.G.L. (1999), "Domination, self-determination and circular organizing", *Organization Studies*, Vol. 20 No. 5, pp. 801-831.
- Ryan, R. and Deci, E. (2000), "Self-Determination theory and the facilitation of intrinsic motivation, social development, and well-being", *American Psychologist*, Vol. 55 No. 1, pp. 68-78.
- Starbuck, W.H. (2017), "Organizational learning and unlearning", *The Learning Organization*, Vol. 24 No. 1, pp. 30-38.
- Tsang, E.W.K. (2017), "How the concept of organizational unlearning contributes to studies of learning organizations: a personal reflection", *The Learning Organization*, Vol. 24 No. 1, pp. 39-48.
- Tsang, E.W.K. and Zahra, S.A. (2008), "Organizational unlearning", *Human Relations*, Vol. 61 No. 10, pp. 1435-1462.

Visser, M. (2017), "Learning and unlearning: a conceptual note", *The Learning Organization*, Vol. 24 No. 1, pp. 49-57.

Walsh, J.P. and Ungson, G.R. (1991), "Organizational memory", *Academy of Management Review*, Vol. 16 No. 1, pp. 57-91.

Wittgenstein, L. (1958), *Philosophical Investigations*, Macmillan, New York, NY.

Yin, R. (2018), *Case Study Research and Applications. Designs and Methods*, Sage, Los Angeles.

Zhao, Y., Lu, Y. and Wang, X. (2013), "Organizational unlearning and organizational relearning: a dynamic process of knowledge management", *Journal of Knowledge Management*, Vol. 17 No. 6, pp. 902-912.

**Table AI.**  
Conditions for the QCA

Rule generation	Origin of the rule	Content
Self-organization (self-org)	Agile working (aw)	Meeting (mee)
Domination (do org)	Conventional working (cw)	Role (role)
		Process (pro)
		Organizational unit (ou)

<i>mee</i>	<i>role</i>	<i>pro</i>	<i>ou</i>	<i>aw</i>	<i>cw</i>	<i>self-org</i>	<i>do org</i>	<i>subing</i>	<i>subtd</i>	<i>id</i>
0	1	0	0	1	0	0	1	0	0	Product Owner
0	1	0	0	1	0	0	1	0	0	Agile Coach
0	1	0	0	0	0	0	1	0	1	Team representative
0	1	0	0	0	1	1	0	1	0	Team speaker
0	0	0	1	1	1	1	0	0	0	Team complete vehicle
0	0	0	1	1	1	1	0	0	0	Team chassis
0	0	0	1	1	1	1	0	0	0	Team exterior
0	0	0	1	1	1	1	0	0	0	Team interior
0	0	0	1	1	1	1	0	0	0	Team prototyping
0	0	0	1	1	1	1	0	0	0	Team electrics
0	0	0	1	1	1	1	0	0	0	Team crash/shuttle
0	0	0	1	1	1	1	0	0	0	Team energy/battery
0	0	0	1	1	1	1	0	0	0	Team entry and exit
0	0	0	1	1	1	1	0	0	0	Team thermodynamics and power unit
0	0	0	1	1	1	1	0	0	0	Team security
1	0	1	0	1	0	0	1	0	0	Planning complete vehicle
1	0	1	0	1	0	0	1	0	0	Planning teams
1	0	1	0	1	0	0	1	0	0	DailyPlus Monday
1	0	1	0	1	0	0	1	0	0	DailyPlus Wednesday
1	0	1	0	1	0	0	1	0	0	DailyPlus Thursday
1	0	1	0	1	0	0	1	0	0	Review
1	0	1	0	1	0	0	1	0	0	Retro
1	0	0	0	0	0	0	1	0	0	Project team meeting
1	0	0	0	0	0	0	1	0	0	Design and technical meeting
1	0	0	0	0	0	0	1	0	0	DMU meeting
1	0	0	0	0	0	0	1	0	0	Technical meeting
0	0	1	0	1	0	0	1	0	1	Sprint I (3 weeks)
1	0	1	0	1	0	0	1	0	0	Daily Monday
1	0	1	0	1	0	0	1	0	1	Daily Tuesday
1	0	1	0	1	0	0	1	0	1	Daily Wednesday
1	0	1	0	1	0	0	1	0	0	Daily Thursday
1	0	1	0	1	0	0	1	0	1	Daily Friday
0	1	0	0	0	1	1	1	0	0	Project manager
0	1	0	0	0	0	1	0	0	0	Second team speaker
0	0	1	0	0	0	0	1	0	1	Release process I
0	0	1	0	0	0	0	1	1	0	Release process II
1	0	0	0	0	1	1	0	1	0	Traffic light sheet meeting
1	0	0	0	0	1	1	0	0	0	Run-up meeting
1	0	0	0	0	0	1	1	1	0	Electrical team meeting
1	0	0	0	0	0	1	0	1	0	Technical team meeting
0	0	1	0	0	1	1	0	0	0	Decision making forms
1	0	0	0	0	0	1	0	0	0	Procurement meeting
0	0	1	0	1	0	1	1	1	0	Sprint II (4 weeks)

**Table AII.**  
Truth table with outcomes “substituted” and “substituting” rules

**Notes:** = “1” indicates the presence of a condition or outcome; “0” indicates its absence. mee: Meeting cw: Conventional working; role: Role; self-org: Self-organization; pro: Process; do org: Domination; ou: Organizational unit; subing: Substituting rule; aw: Agile working; subtd: Substituted rule

**Table AIII.**

Condition pathways  
to the outcome  
“substituted rules”

#	Condition formula	Case
1	Mee{1} * Role{0} * PRO{1} * OU{0} * AW{1} * CW{0} * Self-Org{0} * Do-Org{1}	Daily Tuesday, Daily Wednesday, Daily Friday
2	Mee{0} * Role{1} * PRO{0} * OU{0} * AW{0} * CW{0} * Self-Org{0} * Do-Org{1}	Team representative
3	Mee{0} * Role{0} * PRO{1} * OU{0} * AW{0} * CW{0} * Self-Org{0} * Do-Org{1}	Release process I
4	Mee{0} * Role{0} * PRO{1} * OU{0} * AW{1} * CW{0} * Self-Org{0} * Do-Org{1}	Sprint I (3 weeks)

**Notes:** “1” indicates the presence of a condition or outcome; “0” indicates its absence. mee: Meeting; cw: Conventional working; role: Role; self-org: Self-organization; pro: Process; do org: Domination; ou: Organizational unit; subing: Substituting rule; aw: Agile working; subted: Substituted rule

**Table AIV.**

Condition pathways  
for the outcome  
“substituted rules”

#	Condition formula	Case
1	Mee{1} * Role{0} * PRO{0} * OU{0} * AW{0} * CW{0} * Self-Org{1}	Electrical team meeting, technical team meeting
2	Mee{0} * Role{1} * PRO{0} * OU{0} * AW{0} * CW{1} * Self-Org{1} * Do-Org{0}	Team speaker
3	Mee{0} * Role{0} * PRO{1} * OU{0} * AR{0} * CR{0} * Self-Org{1} * Do-Org{1}	Release process II
3	Mee{1} * Role{0} * PRO{0} * OU{0} * AW{0} * CW{1} * Self-Org{1} * Do-Org{0}	Traffic Light Sheet Meeting
4	Mee{0} * Role{0} * PRO{1} * OU{0} * AW{1} * CW{0} * Self-Org{1} * Do-Org{1}	Sprint II (4 weeks)

**Notes:** “1” indicates the presence of a condition or outcome; “0” indicates its absence. mee: Meeting; cw: Conventional working; role: Role; self-org: Self-organization; pro: Process; do org: Domination; ou: Organizational unit; subing: Substituting rule; aw: Agile working; subted: Substituted rule

**Corresponding author**

Marcel F. Volland can be contacted at: [marcel.volland@uni-hamburg.de](mailto:marcel.volland@uni-hamburg.de)