

# Deploying Intentional Forgetting in Competency Management

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**Abstract:** Forgetting is an adaptive function of humans. The forgetting process in humans occurs when new information is required to be stored in the memory and old information needs to be “forgotten”. In organizations, information produces new information and as a result, a huge increasingly enriching amount of information needs to be managed. Can the forgetting function of humans be adopted in socio-physical systems of an organization? This paper explores this idea in the context of a case study of competency management.

**Keywords:** Intentional forgetting, competency management, organization learning

## 1. Introduction

Information is the asset of an organization. In an organization, a huge amount of information may be collected, stored and processed. Presently, technical limitation in terms of the storage capacity does not represent a major problem for organizations anymore, because the cost and human efforts for storing information are only minimal (Whelan & Teigland, 2013). However, information may produce new information. From old information, the process of organizational exploration and exploitation results in new information. In addition, the evaluation of new information leads to a continuously increasing amount of information. Although this problem of Big Data could be solved applying statistical approaches, e.g., dimension reduction methods (e.g., Principal Component Analysis (Golub & Van Loan, 2012)), resampling-based methods (e.g., Bags of Little Bootstrap (Kleiner et al., 2014), divide-and-conquer methods (Chen & Xie, 2014).

In addition to statistical approaches to solving Big Data problems, other researchers proposed to adopt the forgetting ability of humans to infer the implications (Schooler & Hertwig, 2005) and to explore the causalities (Nairne & Pandeirada, 2008) from data. How can the forgetting function of humans be adopted in order to optimize the decision making process of an organization?

Forgetting is an evolution process of humans and is not a malfunction in the information processing (Klein et al., 2010, Roediger et al., 2010). Rather, forgetting is an adaptive function in order to remove, overload, suppress, or to filter out obsolete information. If the environment is changing, the adaptive activities in humans are necessary. The old aims must be replaced or “forgotten” in order to focus on new relevant aims (Altmann & Gray, 2002; Roediger et al., 2010). Thus, forgetting avoids the recall of obsolete information (Schooler & Hertwig, 2005). This adaptive ability of information processing of humans serves to make effective decisions for the future (Klein et al., 2010). In order to make future decisions, the memory needs to mark relevant units of information. Relevance is an attribute for distinguishing information units that are required for the future decision and information units that should be forgotten (Walker et al, 2013). Intentional forgetting is referred to as a process that is exploited by humans in order to control and to regulate the content of their memory (Lehman & Malmberg, 2011).

Organizations do not own the advantages of forgetting of humans. In this paper, I discuss how the forgetting features of humans can be adopted in organizations. In Section 2, I review the state of the art of intentional forgetting from the perspectives of cognitive psychology and organization theory. In Section 3, I propose to adopt exiting forgetting approaches in a concrete case study of competence management that is one of the information-intensive socio-physical systems in organizations. In the last section, I summarize our conclusions.

## 2. Intentional Forgetting in Organization - The State of the Art

From the perspective of psychology, forgetting describes the observation of being not able to recall information about what happened in the antecedent time (Wixted, 2010). Forgetting is the opposite of remembering. According to Nairne and Pandeirada (2008), forgetting is a process of adaptation. Thus, researchers assume that forgetting is a condition for successful learning and remembering (MacLeod, 1998). Though, human brains have unlimited memory capacity (Storm, 2011). Adaptivity is required, because the past will not repeat exactly, at least not in the same form. Thus, it is not worth for humans to record exactly experiences. Memories are valuable, because the past helps us to make plans for the future (Klein et al., 2010; Nairne & Pandeira, 2008). In order to make decisions about alternatives, it is not required to store exactly all detailed information about what happened in the past, because not all detailed information is relevant for decision making. Some researchers promote the advantages of forgetting to infer the implications (Schooler & Hertwig, 2005) and to explore the causalities (Nairne & Pandeirada, 2008).

Adopting the advantages of forgetting and its adaptive function, several theoretical proposals for deploying forgetting in organization have been developed. However, none of them has been empirically validated yet (Akgün et al., 2006; Becker, 2005; Casey & Olivera, 2011; Easterby-Smith & Lyles, 2011; De Holan, 2011). A body of research has been conducted in order to investigate the nature of organizational memory and forgetting and their relationship (Casey & Olivera, 2011). The basis research was enriched by the work of Becker (2005) who distinguished between individual learning and organizational learning and developed a model of unlearning. Easterby-Smith and Lyles (2011) discussed organizational forgetting from three perspectives: cognitive, behavioral, and social. De Holan (2011) identified four main mechanisms that drive organizational forgetting: assets and technologies, routines and procedures, structure and understandings. Among the literature body of research on organizational forgetting, little research has been conducted to validate the benefits of organizational forgetting. One of little research works that focused on applying and validating organizational forgetting mechanisms was Akgün et al. (2006). The authors proposed a team unlearning approach to support new product development team. The authors suggested that managers should enhance team unlearning. What the product development managers should do including three steps: 1) simulating an urgency situation by introducing an artificial crisis and 2) avoiding the group's thinking by integrating an outsider in the team in order to challenge existing policies and procedures, and training the team on lateral thinking.

Summarizing different forms of organizational forgetting that have been proposed in literature of organizational forgetting, four forms have been proposed: unlearning, selective forgetting (ignorance), rearranging, eliminating.

According to Hedberg (1981), unlearning is a process of discarding. Specifically, in the context of organizational unlearning, Tsang & Zahra (2008) defined unlearning "as the process of encoding the inferences about the organization's history into routines that guides its future behavior." That means, organizational unlearning takes place in form of discarding and substituting of old routines (Huber, 1991) (e.g., a routine of patient admission in a praxis) and has the aim to install new routines (Tsang & Zahra, 2008) (e.g., because the old routine of patient admission might have resulted in long waiting time for patients). Forgetting is understood as the exchange of a routine that does not serve the goal of an organization anymore with new routines. The term "routine" is adopted from Levitt and March (1988) and is referred to as a set of numerous elements: "forms, rules, procedures, conventions, strategies, and technologies around which organizations are constructed and through which they operate". According to Klein (1989), there are four unlearning models. The first model is the extinction model that means the removal of undesirable knowledge from an individual. Second, the replacement model is considered as the dissemination of new knowledge to an individual. Third, the exorcism model describes the removal of inappropriately-behaving individuals from an organization. The last model is the salvation model, which is understood as the replacement of inappropriately-behaving individuals by a manager.

Selective forgetting or ignorance (Roberts, 2013) refers to a lack of knowledge or information. There are two types of ignorance. First, ignorance is referred to as known unknowns, i.e., knowledge of what is known about the limits of knowledge. The second type of ignorance is a total lack of knowledge such that we are not aware of our ignorance. The second type of ignorance in an organization may happen if the staffs decide not to consider specific information or to invest efforts in keeping

specific information. This form of forgetting is understood as the conscious ignorance of temporary irrelevant information.

Rearranging of information that is referred to as “voluntary forgetting” by de Holan (2011) means abstracting, generalizing and relieving the details. If an organization wants to rearrange, it must decide on a general context, because the organization’s goals of the organization must be anticipated.

Unlike the notion of unlearning proposed by Hedberg (1981), Huber (1991) and Tsang & Zahra (2008), eliminating (Akgün et al., 2006) is a form of organizational forgetting that is related to the concept of memory. Eliminating means, that obsolete, useless or wrong information is removed from an organization. That is, information that is not relevant for the organization anymore, because the environment has been changed or because the information has been shown to be wrong, will be deleted. The advantage of this form of forgetting is that eliminating information from the memory of an organization (or a team within an organization) allows the processing of new knowledge and making teams more flexible in their actions under new conditions (Akgün et al., 2006).

### **3. Study Case: Intentional Forgetting in Competency Management**

Competency management is a practice that becomes more and more important in cooperate governance, public governance and non-profit governance. Competency management helps organizations to attract and develop talented employees, to identify the right person for a task, to plan appropriate training for employees, and to serve other human resource functions (de Beeck & Hondeghem, 2010). Thus, in an organization, competence management is indispensable. Competence management is not only responsible for storing competencies of persons when a new employee is employed. New competencies of employees can be developed and increased along the time of working in an organization. Thus, competencies of employees are required to be updated by the competence management. One of the issues of competence management is that old competencies that had been registered when an employee was hired may be not useful and relevant for the present requirement of a firm. This kind of information (outdated competencies) may prevent the competency management to compute a best match of human resources for a specific project, because information about competencies of employees is enriched with time. As a solution for this problem, different forms of organizational forgetting may be deployed. In the following, I will discuss the applicability of these organizational forgetting forms (unlearning, selective forgetting (ignorance), rearranging, and eliminating) for the problem of competency management.

Unlearning might be applied in competence management. Old competencies that are not relevant in a new condition should be replaced by the new ones. For example, some programmers may have learned the programming languages that were required in 1950-60 like Fortran or Basic and the competencies in these programming languages may be not useful in many companies nowadays. The programming experts may have forgotten the details (e.g., syntax) of these programming languages. Therefore, such competencies might be not relevant for competency managers and should be discarded. At the same time, employees need to develop new competencies that help a company sustainable. For example, programmers need to learn new programming languages that are relevant for the projects of a company like C# or Java. New competencies need to replace the old ones in a competency management system.

Selective forgetting might also be applied in competency management. The problem is how can a management system know which competencies should be forgotten. Several solutions may be developed. First, based on the interaction of the competency manager with the system, the patterns of choosing competencies of the staffs to be distributed to projects in a company can be mined. Through pattern mining, we can determine which competencies are more frequently used. The less frequently used competencies can be forgotten. Another solution could deploy information about relevant competencies on the Internet. Exploiting open data on the Internet, we might determine the relevance of a competency by searching documents related to that competency. Based on the frequency of existing documents about a specific competency, we are able to determine the relevance of a specific competency. The common principle between these two approaches is that both techniques need to determine which competencies are less relevant than other ones in order to forget the less relevant competencies in a competency management system.

In terms of rearranging, competencies must be generalized and details about the competencies need to be abstracted. This approach is controversial, because the task of competency management requires concrete description of a specific competency. It is not realistic that competencies are summarized to be described on a higher level.

Eliminating is a forgetting form that might be not an efficient adaptive technique for competency management, because the existence of an outdated competency may be more useful than no competencies in the management system at all. What kind of competencies of employees should be eliminated? The answer of this question may be diverse if we consider different types of competencies. In addition to domain-specific competency (subject-specific/occupation-specific skills, knowledge, and abilities), OECD (2005) defined a framework of key competencies that are divided in three clusters: the competencies of using tools (or media) interactively, the competencies of acting autonomously, and the competencies of functioning in heterogeneous groups. Considering the competencies of functioning in heterogeneous groups, employees are required to cooperate and work in teams, to manage and resolve conflicts. In this case, programming experts who usually work alone on their program codes effectively must now confront a new challenge: they must be adapted to work in a heterogeneous team. Thus, they need to “forget” or to break themselves of the habit of working alone.

#### 4. Conclusions and Future Work

In this paper, I have reviewed four forms of organizational forgetting: unlearning, selective forgetting (ignorance), rearranging, and eliminating. Based on these forms of organizational forgetting, I have discussed their applicability in the domain of competency management. I argued by giving examples to show that unlearning, selective forgetting (ignorance), and eliminating could be intentionally applied in competency management in order to make an organization sustainable.

As future work, I plan to investigate and to formalize the forgetting process of humans and the antecedences of forgetting. I will adopt the formalized forgetting process in the three forms of organizational forgetting (unlearning, selective forgetting (ignorance), and eliminating).

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